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FROM

National Committee for Mental Hygiene

NEUROPSYCHIATRY AND THE WAR

A Bibliography with Abstracts

NEUROPSYCHIATRY AND THE WAR

A Bibliography with Abstracts

PREPARED BY

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PREFACE

In order that the psychiatrists and neurologists in the neuropsychiatric h pital units attached to the base and other military hospitals of the United Sta Government may have at hand the latest information about the special proble to be met in the army camps, abstracts of books, of parts of books, and of mc than 300 articles dealing with the psychiatric aspects of the war have been gat ered and prepared. The abstracts are grouped under the countries in the la guage of which the original books or articles were published. Under each cou try the material is arranged chronologically according to the date of publicatio so that development of theories, changes of opinion, working out of method and the like, may be traced throughout the progress of the war. A list of tl eighty-seven periodicals from which abstracts of articles have been made is give on the sub-title pages preceding the literature of each country. Since few issu of German medical journals of a date later than 1915 have reached this country and since the receipt of other foreign periodicals has been very irregular, omis sion of important articles has been unavoidable. It is hoped, however, tha this omitted material will be available later, and so can be included in additiona collections of abstracts to be issued from time to time by the War Work Com mittee of the National Committee for Mental Hygiene. In some instances when brief and timely abstracts have been found in medical journals, these hav been reprinted in the collection, but in all such cases full credit has been give to the writer of the abstract and to the journal in which it was originally pub lished.

Thanks are due to the Library War Service of the American Library Association for approval of the binding of the abstracts, to Miss Evelyn G. Smalley who contributed references to articles in foreign periodicals, to Miss Edith M. Furbush, Statistician of the National Committee for Mental Hygiene, who compiled the tables on pages 245–247 from the Reports of the Surgeons-General of the United States Army and Navy, and to Dr. Bernard Glueck, Director of the Psychiatric Clinic at Sing Sing Prison, Ossining, N. Y., who made the translations and abstracts of the Russian literature.

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AUSTRALIAN LITERATURE

PERIODICALS ABSTRACTED

Medical Journal of Australia

AUSTRALIAN LITERATURE

Campbell, A. W. Remarks on Some Neuroses and Psychoses in War. Med. j. of Australia, April 15, 1916, p. 319–23

The writer was in service for a year with No. 2, Australian General Hospital, during the time in which operations were proceeding at the Dardanelles. After stating that, according to his experience, mental and nervous affections under war conditions are much more frequent than had been supposed, he gives a tentative classification of neuroses and psychoses as observed by him during service:

"(1) Neuroses involving the motor apparatus and common sensibility.
"(2) Neuroses involving the special senses and the faculty of speech.
"(3) Neurasthenia and other conditions, including 'trench spine.'
"(4) Psychoses (a) Minor (b) Mental stupor (c) Insanity."

Under the first head, he classifies cases of hemiplegia and other paralyses and pareses, and contractures and spasms, with or without disturbance of common sensibility. Cases are cited. In such cases, the contractures and spasms were often peculiar, first, in selecting unusual muscles or groups of muscles, and secondly in being accompanied by the concomitant phenomena to be looked for in cases having an organic basis. Also the anaesthesia was anomalous. Some of those who had been wounded, but with no evidence of bone or nerve injury, no interference with galvanic or faradic excitability, and no vasomotor or trophic changes, presented puzzling cases of paralysis of muscles or limbs. In virtually all cases there were concurrent indications of nervous instability and psychic shock, such as tachycardia, epigastric pulsation, tremor, sighing, hyperidrosis, polyuria, insomnia, night terrors, hyperemotivity and anxiety.

There were numerous cases falling under the second class—neuroses affecting the special senses and speech. Almost all of these were young and obviously neurotic, with a tainted family history. Cases of speech affection, aphonia, anarthria, mutism or stammering were most frequent. The writer believes that these cases cannot be compared at all to cases of organic aphasia, because they showed integrity of the higher factors involved in speech. He agrees with Mott—that such cases present temporary inhibition of volitional control of centers governing and regulating the respiratory and muscular apparatus of the speech mechanism. Cases of speech affection are cited, followed by cases of blindness and deafness.

Campbell next discusses affections belonging to the third class—neurasthenia, etc. He gives case histories of hemichorea, exophthalmic goitre, and "trench spine." He attributes the pain and paralysis involved in the last to initial displacement of cerebrospinal fluid or substance operating with transitory effect upon the whole nervous system, and to a residual disturbance of the lower spinal segments.

Cases of the fourth class—psychoses—he subdivides into (a) Cases showing "minor conditions," such as "gun-shyness," insomnia, terrifying dreams and phobias and fears of all kinds. To these he adds men suffering from psychasthenia, hypochondriasis and morbid introspection, and those who had experienced some previous illness, operation or accident. (b) Cases of mental stupor, anergia and acute dementia. All these cases occurred in men young and nervously unstable. Recovery, under proper conditions, was prompt. (c) Cases of insanity. These were few, and did not differ from those seen in civil practice except that the delusions and hallucinations invariably had a war coloring.

From an etiological viewpoint, Campbell considers predisposition the all important factor and fundamental cause of war neuroses and psychoses.

In treatment of the neuroses, recovery from the immediate disability can be

expected, and many subjects can later prove useful and efficient on lines of communication or at the bases, but they are permanently unfit for further fighting. For this reason, it should be a source of great regret that their weakness was not detected prior to enlistment. Ideo-obsessive states must be treated with great care and judgment. The confidence of the patient should be gained before instituting therapeutic measures. For affections of the motor apparatus, massage proved valuable. These cases should be isolated so as not to carry psychic contagion, for, although they are by no means malingerers, they usually exaggerate their disabilities and thus have a dangerous influence upon other patients. Another important point is to make their stay in the hospital as short as possible to prevent them from acquiring the invalid habit.

For proper treatment of such cases as are discussed in this article, either a small special hospital should be established not far from the field of operations, or a medical officer and orderlies and nurses acquainted with work with mental cases should be attached to the nearest general hospital.

BRITISH LITERATURE

Periodicals Abstracted

England

Annual Report of the British Board of Control
Annual Report of the London Hospital and Asylum for Mental Diseases
Bristol Medico-Chirurgical Journal
British Medical Journal
Guy's Hospital Gazette
Journal of Laryngology, Rhinology and Otology
Journal of Mental Science
Journal of the Royal Army Medical Corps
Journal of the Royal Naval Medical Service
Lancet
Medical Press and Circular
Practitioner
Proceedings of the Royal Society of Medicine

Ireland

Dublin Journal of Medical Science

Scotland

Edinburgh Medical Journal
Review of Neurology and Psychiatry

BRITISH LITERATURE

Kay, A. G. Insanity in the Army During Peace and War and Its Treatment. J. of Royal army med. corps 18: 146–58, Feb. 1912

The author says that until recently nervous and mental diseases in the army have received very little recognition in England, but the apparent increase of these conditions makes the subject deserving of special study. In France and Germany statistics show that there has been a continuous increase in mental diseases in the army for the last ten years, the incidence at present being alarming. In England, also, statistics show an increase, though not quite to the same extent. Part of this increase is apparent and appears to be due to better methods of recognizing cases on the border line.

In the French Army among the infantry the disturbances most frequently observed are psychoses synchronizing with attacks of mental exhaustion. The sudden change from comparative comfort to an existence imbued with all the rigors of military discipline, not to mention the exactions incident to enforced mental and physical exertion, entails something more than the ordinary soldier possesses, namely, the sort of adaptability associated only with men who are habitually in possession of normal intellectuality. One can readily see that since the individuality of the ordinary soldier is none too strong, he will not be long in manifesting insanity, should there be a predisposition to cerebral disturbance—a deplorable condition that is brought on partly by the officers in charge of regiments who seem to see in his lack of ability to submit to stringent military rules only what is perverse in human nature that must be corrected by increased discipline. This stubbornness is held responsible for insubordination, and disregard of military rules, for open rebellion, when mental disease should be regarded as the prime cause.

The Army Medical Report of the British army for 1908 gives the following figures: Total number of recruits inspected, 61,278. Rejected for weakness of intellect: (1) On inspection 54, equal to 0.88 per 1,000 inspected; (2) Three months after enlistment, 71, equal to 1.16 per 1,000 inspected.

The forms of insanity most prevalent in the British army are melancholia, mania, and the delusional types; very few cases of general paralysis of the insane occur, although there is always a large amount of syphilis and its sequelae. The short-service system would partially explain the comparative infrequency of this particular form, but the author also thinks the more effectual methods of treating syphilis would account for the absence of general paralysis of the insane perhaps better than any other reason.

British medical officers examining recruits are bound by regulations to test the mental capacity of every recruit before enlistment. This is done by directing attention particularly to mental alertness, and to signs of degeneracy, epilepsy, and all forms of nervous instability, or any other condition likely to produce mental weakness. In this way, so far as medical skill can prognosticate, the psychically weak are eliminated.

Insanity is invariably increased as the result of war. The prevailing types of the disease are the depressive and delusional forms.

Regarding the effect of a campaign on mental diseases, the experiences of the Russo-Japanese War have furnished valuable information. It is worthy of note that this was the first time in which mental diseases were separately cared for by specialists from the firing line back to the home country. The experiences of the Japanese side have not yet been published. The Russian experiences have, however, been fully reported.

Steida (*Centralblatt für Nervenheil und Psychologie*, 1906) says that battle as a psychic trauma is not alone sufficient to cause a psychosis. The most imme-

diate results of battles are hysterial excitement and confused states. These usually clear up within a few days, but irritability, fearfulness and emotional instability remain for weeks. He lays as much weight upon the prolonged exertion, the deprivations, the loss of sleep, hunger and thirst as upon the psychic trauma of battle. Among the Russian officers there was a high percentage of alcoholic psychosis, and also neurasthenic and hysterical conditions. Wagner (*Militararztliche Zeitschrift*, 1908) describes many cases of hysterial fright with great excitement and confusion, ending finally in a semi-conscious state with great mental and bodily weakness. The lack of complete examination of officers and men before going to the front greatly increased the number of mental cases. Prof. Autokratow personally saw officers in the early stages of paresis and with arteriosclerosis going to the front, only to be returned in a few months with more active manifestations of their ailments.—Mil. surg. 30: 457–59, April 1912.

Elliot, T. R. Transient Paraplegia from Shell Explosions. Brit. med. j., Dec. 12, 1914, p. 1005-06

The chief features of this are:—Numbness and complete paralysis of the legs immediately after the explosion, but with no manifest wound on the body. The arms are unaffected, but the legs are powerless, so that the patient has to be carried from the field on a stretcher. Within a week movement and sensation return in the legs, and after a fortnight or so the soldier is able to walk about again, although he continues to complain of extreme tenderness in the lumbar region and aching pains shooting up the back. The sphincters are rarely affected. During the paralysis the leg muscles are slightly flaccid, and both the superficial and the deep reflexes are depressed, while there is nearly always an area of hyperalgesia encircling the abdomen above or below the level of the umbilicus. The plantar reflex is never extensor.

Four cases are recorded, and it is pointed out that while the diagnosis of functional paraplegia and residual neurasthenic tenderness undoubtedly is correct in some cases, in many others the injury is to the spinal roots, and although the cases recover, it is important to the injured men that they be not classed with the neurasthenic or hysterical.—A Ninian Bruce, Rev. of neurology and psychiatry 13: 71, Feb. 1915.

Myers, Charles S. Contributions to the Study of Shell Shock; (I) Being an Account of three Cases of Loss of Memory, Vision, Smell and Taste, Admitted into the Duchess of Westminster's War Hospital, Le Touquet. Lancet, Lond., Feb. 13, 1915, p. 316–20

"The remarkably close similarity of the three cases which are described in this paper is shown in the following synopsis:"

	Case 1	Case 2	Case 3
Cause	Shells bursting about him when hooked by barbed wire	Shell blowing trench in	Shell blew him off a wall
	Preceding period of sleeplessness	As in Case 1	?
Vision	Amblyopia. Reduced visual fields	As in Case 1	As in Case 1
Hearing.....	Slightly affected for a brief time	Not affected	As in Case 2
Smell.....	Reduced acuity	Total anosmia	Unilateral anosmia and parosmia
Other sensations .	Not affected	As in Case 1	As in Case 1
Volitional movements	Not affected	As in Case 1	As in Case 1
Defaecation	Bowels not opened for 5 days following shock	As in Case 1	As in Case 1
Micturition.....	Urine not passed for 48 hours	Not affected	As in Case 2
Memory	Apparently slightly affected	Very distinct amnesia	As in Case 2
Result of treatment.....	General improvement by rest and suggestion	As in Case 1, supplemented by hypnosis	As in Case 1

Very detailed case histories are given. Major Myers concludes his article as follows:

"Comment on these cases seems superfluous. They appear to constitute a definite class among others arising from the effects of shell shock. The shells in question appear to have burst with considerable noise, scattering much dust, but this was not attended by the production of odour. It is therefore difficult to understand why hearing should be (practically) unaffected, and the dissociated 'complex' be confined to the senses of sight, smell and taste (and to memory). The close relation of these cases to those of 'hysteria' appears fairly certain."

Parsons, Herbert. Psychology of Traumatic Amblyopia Following Explosion of Shells. Lancet, Lond., April 3, 1915, p. 697–701; also in Royal soc. of med., Section of neurology and psychiatry. Proceedings 8: 55–68, April 1915

Parsons describes a typical case as follows: A man after more or less prolonged fatigue, induced by marching and exposure in the trenches, is incapacitated by the explosion of a shell in his immediate vicinity. He may be merely knocked down or thrown into the air, and more or less seriously injured or wounded by concussion, shrapnel bullets, or shell splinters. Consciousness is lost for a variable time, but often not so far as to prevent automatic movements, so that the man may walk in a dazed condition to a dressing station. The mental equilibrium at this stage is much disturbed, and all memory of this phase is

usually lost. The most striking feature of the case is that the man is instantaneously struck blind. The blindness may be associated with deafness, loss of smell and loss of taste, but all these are less frequent than the blindness. On examination it is found that there are intense blepharospasm and lacrymation.

The lids are opened with great difficulty and examination of the eyes is almost impossible. The author is not aware of any record of the condition of the pupils at this stage. In the course of a week or two the blepharospasm diminishes and it becomes possible to examine the fundi. Of course, there may be local injury to the eye, but in uncomplicated cases the eyes are found to be normal. The pupils react to light, though in some cases the reactions are sluggish, and sometimes one pupil differs from the other, being larger, or more sluggish in its reactions. The fundi appear to be absolutely normal. By this time probably some restoration of sight has occurred. Light is perceived and large objects may be distinguished. As improvement occurs the patient manages to grope about usually with his hands outstretched before him, and it is noteworthy that he does not usually stumble up against objects in his path. As soon as it is possible to take the fields of vision it is found that they are markedly contracted, and that indeed to a degree which seems scarcely consistent with the avoidance of obstacles in walking. The recovery of vision is slow, but eventually it seems always to be complete.

There are several suspicious symptoms in many such cases. The eye to recover last is often the shooting eye. Some patients show an obvious disinclination to return to duty. Some candidly admit to being in a "blue funk." In all there has been a complete mental upset, sometimes accompanied by hysteric symptoms—outbursts of weeping, etc., in the early stages. These features render it only too easy to jump to the conclusion that there is often a large element of shamming in the case. It is because there is very grave danger of cruel injustice being done to men who have faced the music and come battered out of the ordeal that Parsons attempts an explanation of the underlying psychology. Since there is no demonstrable organic lesion these cases may be regarded as examples of injuries or wounds of consciousness. This does not imply that there is no neural lesion to account for the psychologic disorder, but merely that it has hitherto escaped observation. Parsons adopts the view of parallelism between physiologic neural processes and psychologic events or changes in consciousness.

In the case of a soldier under shell fire the man is usually bodily fatigued, whereby his control is impaired. He has "the fear of death before his eyes" and is in a state of acute excitement, whereby his normal judgment is impaired. These conditions conspire to give his innate instincts ungoverned play. On the other hand, positive self-feeling, aided by suggestion and imitation and the sentiments of patriotism, the honor of the regiment, his own honor and so on, enforce his volitional control. At last, however, the shock comes which strikes him unconscious. It is not to be supposed that he is thereby anesthetized to these emotional storms. It is rather to be conjectured that he is rendered "subconscious" and hence the more a victim of his lower instincts. This view is supported by the emotional behavior of the men in the early stages, and by the fact that many of their actions can be revived by hypnosis.

The unconsciousness in these cases is to be explained physiologically by an abrogation of the functions of the highest level cortical cells. Recovery shows that the cells are not irretrievably damaged, and it is most likely that the block occurs on the afferent paths at the synapses of these cortical cells. Consciousness returns, but there is blindness. So far as objective evidence goes the lower visual paths are intact and function normally. The optic nerves carry their impulses, at any rate, as far as the pupil reactions are concerned. The condition resembles uremic amaurosis. Parsons has seen it also in children after post basic meningitis. The block is somewhere above the so-called primary

optic centers—external geniculate bodies, optic thalami and superior colliculi It, too, is probably in the synapses of the cortical cells, in this case the synapse: of the fibers of the optic radiations. Sometimes such a block occurs physiolog ically and it is probably to be explained in the same manner.—J. A. M. A. 64 1581, May 1, 1915.

Pemberton, Hugh S. Psychology of Traumatic Amblyopia following the Explosion of Shells. Lancet, Lond., May 8, 1915, p. 967

A case in an artillery sergeant in which the following factors were present: (1) Excitement during a prolonged and critical attack. (2) Over-stimulation of eyes and ears. The flashes of night firing are very brilliant, while many batteries close together and all firing rapidly invariably produce temporary deafness among the gunners. (3) Some natural fear from close hostile bursts. (4) Disgust at the sight of the killed, two of whom were decapitated and one disembowelled. (5) Great physical and mental fatigue from continuous laying of the gun during twelve hours.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 24–25, Jan. 1916.

Turner, William Aldren. Cases of Nervous and Mental Shock Observed in the Base Hospitals in France. Brit. med. j., May 15, 1915, p. 833–35

"Cases of nervous and mental shock," writes Lieutenant-Colonel W. Aldren Turner, M.D., F.R.C.P., "may be counted among the more interesting and uncommon clinical products of the present war." Almost from the outset of the war such cases began to come into our hospitals and were found to be due sometimes to the bursting of heavy shell near the man, to his burial under earth and débris, or to the effects of noxious gases; in other cases to nervous exhaustion due to sleeplessness, fear, anxiety or other prolonged strain. Towards the end of 1914 Sir A. Keogh sent a special medical officer over to France to report on the number and nature of these cases and suggest the best form of treatment for them in France and at home. As a result of this officer's report it was decided to label all such cases at the base hospital and send them for treatment in England at hospitals for nervous diseases under the care of neurological experts.

The system now adopted with such cases, while they are under military care, is as follows: At the base hospital a distinction is made between neurological cases (neurasthenia, functional paralysis, hysteria, etc.) and grave mental cases bordering on, if not actually, insanity. The neurological cases are sent to one of the clearing hospitals for such disorders at home and there treated. If the case is a light one, the patient may be rapidly cured by a course of rest and good feeding and returned to duty after a furlough; if more severe, he will be sent to one of several special hospitals for nervous diseases where further treatment is given. Cases of mental disorder go to another clearing hospital, and unless signs of improvement occur, are sent on to the military hospital for such cases either in England or Scotland. These cases of mental disorder often prove responsive to medical treatment, and as long as there is any hope of improvement they are kept in a military hospital; but when they are manifestly incurable they are discharged to an asylum.

A man suffering from neurasthenia, who does not prove amenable enough to treatment to enable him to return to the army, is discharged from the special hospital where he has been treated and returned to civil life. But such a man is not sent off to the ordinary local committee for advice on his further treatment; he is brought before a special medical board, presided over by Sir John Collie, which has its headquarters in London, and sends out members to examine discharged neurasthenics in other towns. This board and its local delegations consider the cases, not only of men immediately they are discharged, but also of

those who have been given short, renewable pensions until the degree of their disability has been finally ascertained. These boards recommend to the men special forms of treatment suitable for them, can order gratuities from the pensions fund for those whose disability is not likely to be permanent, and make recommendations for the final scale of pensions to which each such man is entitled.

Work and interest in extraneous life are the best cure for such cases. One of the worst services that can be rendered to them is to lavish injudicious sympathy upon them. From the nature of the disorder, the man is apt to pity himself unduly and to welcome greedily well-meaning but ill-advised attempts to make him think himself incapable of exertion. Chiefly in order to save such men from their friends and to give them the bracing treatment that they require, a home for neurasthenics discharged from the army has recently been opened by the Pensions Ministry at Golders Green. This hospital has cost some £6,000 to put in order, and is hired by the Red Cross Society at a rental of £500 a year. The upkeep is paid for by the Pensions Ministry. The staff of the neighboring Maida Vale Hospital for nervous cases will be at hand to treat the patients. Besides medical appliances such as electrical apparatus and whirlpool baths, and facilities for psychotherapeutist treatment, a leading feature of the place will be the workshops for basket-making, joinery, bootmaking and carpentry and fifteen acres suitable for agriculture; and all the patients will be encouraged to work. The number of patients is limited to 100, and no man will be allowed to stay there more than three months. During that period, wise and sympathetic treatment and insistence on work will have cured the vast majority, even of the most obdurate cases.—Recalled to life 1: 125–27, June 1917.

Abrahams, Adolphe. Case of Hysterical Paraplegia. J. of Royal army med. corps 24: 471–73, May 1915

A private was admitted to the Connaught Hospital, Aldershot, in September, 1914, suffering from paraplegia. His history was as follows: On September 8, 1914, a shell had burst near him and a companion. He was unconscious for four or five days. When he regained consciousness he found himself suffering from one slight wound, complete paralysis of both legs, and pain in the back near the fourth lumbar vertebra. He said he had paralysis of the sphincters for eleven days after the accident. The description of his condition soon after admission reads as follows: "There is complete paraplegia below both hips. As regards sensation in the legs, there is complete loss of all forms of sensibility, including deep touch in the right leg below Poupart's ligament and behind as high as the iliac crest. In the left leg there is complete anaesthesia to all forms of sensibility of the foot, including the heel and sole. There is loss of sensibility to light touch all over the limb, but pain (pin-prick) is appreciated apparently normally as far down as the ankle, where there is an abrupt change to total anaesthesia. There is some weakness of the right arm and of the muscles supplied by the ulnar nerve, and there is anaesthesia to touch and pain over the area of distribution of the ulnar nerve in this hand. Sphincters normal."

As there was no evidence of trophic change in any part of the body, nor of any differences in the power or muscular condition in the upper extremities, and as the scar of the small bullet wound over the trunk of the sciatic nerve showed itself perfectly healed, such a condition pointed almost beyond the slightest doubt to functional paraplegia. The nature of the psychic trauma was arrived at by further cross-examinations, in one of which the patient stated that he had *seen* the legs blown off the companion at his side at the time of the shell explosion, and in another he said he had only *heard* that this had happened. It was learned also that the patient has a sister who has been completely paralyzed for years and this circumstance probably introduced an anxiety neurosis that the burden of an additional cripple upon the family should not be laid to his charge.

"On April 30 the patient was anaesthetized with nitrous oxide. During the slight temporary rigidity which occurred the lower limbs were seen to participate in the change. Before consciousness returned, the legs were flexed and placed in a position in which the change could readily be seen by the patient, who, upon the return of complete consciousness, was persuaded that the legs had moved during the anaesthesia, and commanded to place them in a more convenient position. Slight voluntary movement of the thighs immediately took place, and suggestion was continued throughout the day, movements being encouraged against resistance which the patient did not realize. On the following day he was gradually raised to the vertical position and supported upright. At this stage his mental condition was one of resistance and resentment and reluctance to admit that any voluntary movement was possible. During the day the upright position was resumed at intervals, and the patient made to walk between two attendants. On the following day he walked alone. By this time his attitude of resistance had broken down, his movements were now made without any demonstration of the great exhaustion which characterized his first efforts, and he began to express interest and pleasure in his recovery. Henceforth improvement was steadily progressive. His co-ordination and strength increased so that he was soon able to walk a hundred yards with a stick, and then unsupported. A pronounced hysterical element persisted, encouraged by the almost perpetual attention he received from visitors and other patients. When he left for an auxiliary hospital on May 25, there was sharply defined hemianaesthesia in the right side throughout the body to light tactile sensation (cotton-wool) and to slight painful sensation. On the left side sensation throughout was perfect with the exception of a doubtful patch of anaesthesia on the dorsum of the foot, the sole and the plantar surface of the heel."

Emslie, Isabel. War and Psychiatry. Edin. med. j. 14: 359–67, May 1915

Isabel Emslie notes that the war has not made any increase in insanity as far as civilians are concerned. Among those in which insanity may be said to have been caused by the war, the great proportion of cases are those people who have had previous attacks and those who are weak-minded or very high strung. Few normal persons seem to have been affected. Many of the admissions to the asylum show that though their psychoses were not actually caused by the war, nevertheless this was playing a large part in evolution. This factor was very noticeable in the admissions which occurred in the first month or two after the commencement of the war. It has gradually become less and less frequent, till now it is rarely seen. The mental shock of the war is apparently not so keenly felt now by the unstable mind as when the blow first fell. Of patients already suffering from psychosis when the war started, it could not be said that one had a relapse which might be traced to the war. The patients who were most affected were the paranoiacs, who, though they apparently had a normal outlook on the war, really had their own distorted views of it and had developed many and varied delusions.—Med. rec. 88: 205, July 31, 1915.

Fiessinger, Noel. Emotional Shock from Bursting of Big Shell. Med. press and circ., Lond., new series, 99 : 563–65, June 9, 1915

The writer comments upon the rare occurrence, according to his experience, of shell shock, stating that a week after a battle in which the enemy's heaviest artillery was used only one case of pronounced emotional shock and two minor cases were found in an ambulance with sixty-nine wounded and sick. These disturbances supervened on the day after or two days after the battle, as is so often true in the manifestations of hystero-traumatism. "The patient broods over his experience and slowly develops his symptoms in the quiet and calm of the ambulance."

Four cases are then cited.

"It is interesting to note that in the subjects of grave wounds this element of shock is conspicuously absent. Its intensity is not proportional to the gravity of the wound. The most severely impressed are rather those who have escaped physical injury. . . . One man is struck by a piece of shell that knocks away his occiput and part of the brain, yet there is no shock. A week after the receipt of his injury the patient takes an interest in his progress and looks forward to being invalided home.

"As to the nature of these nervous disturbances, it can plainly be no question of malingering, for the victims were excellent soldiers. The violent nervous impression sets up a neurotic state of variable duration. These cases recall the well known syndrome of traumatic neurosis, and their sole interest lies in their etiology. It is obvious, too, that these accidents can only present themselves on a neurotic soil.

"By way of treatment, rest, 'suggestion,' and manual occupation suffice in most instances. The very man who has presented these symptoms may, on a subsequent occasion, prove a hero; in short, they are the minor consequences of violent emotion."

Grasset, Joseph. Clinical Lecture on the Psychoneuroses of War. Med. press and circ., Lond., new series, 99: 560–63, 586–87, June 9 and 16, 1915

In common with Dr. W. A. Turner, writing separately in the *British Medical Journal*, under date of May 15, 1915, on "Cases of nervous and mental shock observed in the base hospitals in France," Dr. Grasset describes deaf-mutism (occasionally, but less frequently, blind deaf-mutism) as one of the clinical surprises of the great war. These cases are caused by the explosion of big shells in close proximity to the patient. The shock is both physical and mental. "A typical instance is the bursting of a shell at close quarters by which a soldier is hurled several yards through the air and more or less completely buried beneath earth or the bodies of his comrades. He loses consciousness, and on recovery, especially if he be in an emotional or overtaxed condition, finds that he can neither see, hear, nor speak. . . . He is unable either to convey or receive impressions."

Dr. Grasset suggests, as an explanation of the psychology of these cases, that these patients probably think that they have died, as the only thing which unites such a patient to existence is the preservation of his sensibility and sense of movement. The remarkable example is cited of an ingenious nurse who placed a pencil in the hand of one of these blind deaf-mutes, and guided it while she wrote a question on a piece of paper. The patient replied to the question, writing the answer in a firm round hand. "In these cases sight usually returns first, hearing next, and speech last of all. Both sight and hearing may suddenly return."

Among the less interesting psychoneuroses produced by shell shock are traumatic neuroses, the most important clinical manifestation of which is hemiplegia, or, rather, anesthetic hemi-impotence; hysteria, neurasthenia, disturbances of sleep, and changes in character, as well as various psychoses. The opinion is expressed that personal and hereditary antecedents (ante bellum) have comparatively little value in the psychoneuroses of war, but that in the etiology of the psychoses the personal and hereditary elements play infinitely the more important role.

Out of 198 cases of traumatic lesions of the nervous system examined by Dr. Grasset during the first three months of his service, fifty-nine cases of psychoneuroses were found.

It is stated that the marked psychoneuroses are not as a rule provoked by the graver injuries. "The origin is more dramatic. The explosion of a burst-

ing shell which hurls the victim three or four yards through the air and frequently buries him beneath corpses and débris; the explosion of a shell in the trenches in his immediate vicinity by which the comrades at his side are killed, men who are perhaps breakfasting with him; an explosion which kills a comrade and perhaps hurls the lifeless body at him; the impact of a projectile which bruises and stuns without actually wounding him; these are the originating causes of the psychoneuroses of war. . . . When the victim recovers consciousness, which he does sooner or later, he finds that he is paralyzed. He thinks that he has lost one of his limbs. He is blind, deaf, and dumb, or he is in a shattered and anxious mental condition." . . . The number of patients suffering from mental disease is bound to be greatly increased as the war continues. War conditions "try men's souls" probably more than any other human experience. Psychoses and psychoneuroses are certain to claim a tremendous toll as one of the aftermaths of war.—H. Butts, U. S. naval med. bull. 10:127–28, Jan. 1916.

Feiling, Anthony. Loss of Personality from "Shell Shock." Lancet, Lond., July 10, 1915, p. 63-66

The case is described of a bandsman, aged 24, who was buried in a trench at Ypres. He seems to have been dug out twelve hours later, was unconscious for twenty-four hours, and deaf and dumb for three days. He then did not know his father or relatives, and his mind was found to be a complete blank to all events previous to his being buried. He was "regarded as a case of loss of memory, or amnesia, of such a degree that all conscious memories of his life, as well as the countless memories forming his knowledge of letters, objects, and life in general, were completely suppressed." He was thus a case of complete dissociation, or obliteration, of personality, the term "double personality" being hardly applicable. He was happy and contented on the whole, but could remember nothing previous to his injury. When taken to the zoo, he tried to stroke one of the lions, had no interest in the war, but was interested in music. He was hypnotized, and it was suggested to him that his lost memory would gradually return on awakening. This had no effect. At the second sitting he answered all questions of his past life freely, and it was possible to reconstruct his whole story. He thus presented two personalities. No. 1, *i. e.*, during ordinary life in hospital, was his personality since the date of his "coming to himself" in a hospital in Manchester. No. 2, *i. e.*, the state during hypnosis, was his old personality endowed with all the memories of his past life, and with the more recent and lively memories of experiences on active service in Flanders, up to the time of the burial in the trench. Persons seen and known to him in his ordinary state were always complete strangers to him in his hypnotic state, and vice versa. In his ordinary state he took no great interest in his father; under hypnosis he regarded him with great affection.

About twenty-five sittings were held, but no improvement resulted, and as a certain amount of psychical disturbance seemed to be caused, further hypnotic treatment was abandoned. He was sent home, but his condition remained unaltered. He had no recollection of his previous life at home, and failed to recognize old friends.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 20–21, Jan. 1916.

Milligan, William, and Westmacott, F. H. Warfare Injuries and Neuroses. J. of laryngol., rhinol. and otol., Lond., 30: 297–303, Aug. 1915. Illus.

. . . A number of interesting cases are briefly described with skiagrams showing the position of the bullet. "Concussion deafness" is merely a passing phase in the temporary abolition of sensory impulses in a brain already anaemic

as the result of physical fatigue and mental strain. Nine of ten cases of the deaf and dumb state all recovered within six weeks. The abrogation of function is not due to any organic lesion, but to a temporary suspension of neurone impulses from the higher cortical cells of the central nervous system to the peripheral. In functional aphonia there is no paresis of the adductors as in true hysterical aphonia; there is a total inability to put the vocal cords in motion. Something has happened, probably in the cortical cells of the centers for speech, to prevent volitional impulses necessary to set the machinery of speech in action. —A. Ninian Bruce, Rev. of neurology and psychiatry 13: 457, Sept. 1915.

Proctor, A. P. Three Cases of Concussion Aphasia; Treatment by General Anaesthesia. Lancet, Lond., Oct. 30, 1915, p. 977

The first case was allowed out of hospital with some of his companions, and while in a village became intoxicated. In this condition he "found his voice," and for two days talked and sang incessantly. He was discharged cured.

The other two cases were cured by light ether anaesthesia, the patients being induced to speak during the period of excitement.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 25, Jan. 1916.

Beaton, Thomas. Some Observations on Mental Conditions as Observed Amongst the Ship's Company of a Battleship in War Time. J. of Royal naval med. service 1: 447–52, Oct. 1915

A very interesting psychological analysis. It begins with a description of the type of men who composed the ship's company and the influence of their previous environment. Passing then to a consideration of the nature of the influences to which they were subjected and the consequent reactions, the writer divides the time covered by these influences into three periods: First, a period of prolonged and monotonous stress during the four months that the ship was lying in an exposed position on the East Coast; second, a period of sudden and increased stress, amounting to two days, while the ship was at sea; and last a period of quiescence while the ship was lying in a protected harbor. The writer describes with vivid analysis the critical four months in which the men passed from patriotic eagerness and pleasure in their new duties to the sorting out of friends and acquaintances, to loss of novelty and merging of individuality in component of ship's company, to automaticity in duties, to mental attention to remote matters, such as duration of war, to loss of intelligent anticipation, to unstable apathy, with nothing left to think about, when routine becomes an ever increasing stress and morbid tendencies develop, resulting in mild neurasthenia with hypochondriacal tendencies. Arrived at this stage of minor accidents all had a mental sequence of some kind. The conclusion can only be that lengthy periods of such character as the first four months should be prevented if possible. That the results were not more regrettable than they were can only be due to the standard of the men and their fine morale.—Mil. surg. 37: 608, Dec. 1915.

Mott, Frederick W. Psychic Mechanism of the Voice in Relation to the Emotions. Brit. med. j., Dec. 11, 1915, p. 845–47

ABSTRACTS OF PARAGRAPHS ON WAR NEUROSES

"In my experience at the military hospitals a number of remarkable cases have come under my care illustrating several points in connection with the psychic mechanism of the voice in relation to the emotions. A large number of men suffering from shell-shock, and having no visible signs of injury, have lost their speech, and yet are quite able to write a lucid account of their experiences. This mutism is really an exaggerated form of hysterical aphonia. A woman, owing to an emotional shock may lose her voice; she can, however, as a rule whisper. These men cannot whisper or produce any audible sound. They

occasionally show the bodily signs of extreme terror." Sometimes in their dreams these soldiers call out expressions they have used in battle or in the trenches. Occasionally this is followed by a return of speech. The frequency with which these cases of shell-shock suffer with terrifying dreams at night and sometimes in half-waking states during the day means that the emotional shock is exercising an effect upon the mind by thoughts reverting to terrifying experiences, and the same thing probably accounts for the terrified, vacant look of depression on their faces, the cold, blue hands, feeble pulse and respiration, and sweats and tremors.

"The sudden and varied manner in which these mute patients recover their speech is indicative of a refractory condition of respiration in its function of voluntary production of audible sounds in all forms." The author then mentions cases of recovery caused by unexpectedly feeling pain, by tickling, by shouting out in dreams, by involuntarily joining in a well-known chorus, and by various other kinds of surprises.

"As depressing emotional conditions . . . play an important part in aggravating the shock effects of shell fire and maintaining subsequently a more or less transitory functional neurosis in the form of deafness, blindness, paralysis, tremors, and mutism, we may suppose the sudden emotional excitement, especially if it be connected with the preservation of the individual, is followed by such a powerful stimulating reaction on those depressed nervous centres that the refractory phase established in them by the shock is suddenly overcome. I believe this mutism is due primarily to an inhibitory functional paralysis of the voluntary cerebral nervous centres which control the management of the breath and direct its mode of escape through the glottis, mouth and nostrils, for I have seen many cases where they have involuntarily and unconsciously in their dreams talked and uttered cries and swears, but in their conscious state were unable, not only to talk and sing, but to whisper, whistle, utter a cry, cough, or laugh aloud. The worst cases were unable even to blow a candle out. I examined one with the X-rays and found the diaphragm hardly moved in respiration; he could not expand the chest necessary to fill the bellows. Latterly he has acquired this power; he can now take a fairly deep inspiration, yet he cannot talk or even whisper, cry or laugh aloud; he blows a candle out with the mouth open instead of moulding the lips. Therefore in his case there is an inhibition of the whole voluntary mechanism of audible sound production." The author then describes this mechanism and its double interdependent action of phonation and breath control.

He then discusses the difference between symbolic language, or that produced by civilization, and the universal language of primitive human beings, which expresses itself through mimicry and gesture, and is dependent upon an instinctive preorganized mechanism in the central nervous system. "The effect of emotional shock in the production of mutism is upon this preorganized mechanism which controls the force and mode of escape of the breath in the expression of the emotions and passions. . . ."

"The terror sometimes observed in soldiers suffering from shell-shock is contemplative fear; it is fear made more or less permanent by the imagination fixing in the memory past terrifying experiences, repressed in great measure by conscious activity of the mind during the waking state, but evident in the dreams which afflict nearly all these soldiers suffering from shell-shock and trench warfare."

Mott then cites the case of a soldier through whose brain a bullet had passed, damaging the half in which are located the centres controlling articulate speech, so that he was able to make no voluntary sounds except "oot" for no, and "ah" for yes; yet, if the first word or bar of music of any of several songs was given to him, he was able to sing it through without difficulty. "It must be concluded either that the song had been repeated so often as to have become organized in

both halves of the brain or in subcortical lower centres." The soldier recovered a month later his ability to walk and speak.

The article is concluded with a discussion of the interdependence of the psychic and physiological mechanisms of vocalization.

Forsyth, David. Functional Nerve Disease and the Shock of Battle; a Study of the So-called Traumatic Neuroses Arising in Connection with the War. Lancet, Lond., Dec. 25, 1915, p. 1399–1403

Erichsen in 1875 first recognised the nervous effects of intense emotional strain involving the risk of death. This he thought was "dependent on molecular changes in the cord itself," but this was refuted by H. W. Page in 1883. The term "spinal concussion" was slow to be discarded, although Dana in 1884 claimed that these were really instances of traumatic neurasthenia, hysteria, and hypochondria, and it was only after Oppenheim's monograph in 1889 that the term "traumatic neurosis" became at all general. This he described as a neurosis specifically caused by injury and distinct from traumatic neurasthenia and traumatic hysteria. Bailey in 1908 summed up the modern view as follows: "The theory of a special traumatic neurosis lacks clinical foundation and has been generally abandoned."

The war has produced a unique opportunity to study these cases, especially as they are not influenced by the making out of a case for legal damages, nor to be suspected of cherishing their symptoms to nourish a grievance against the enemy at whose hands they have suffered. These cases are sent home from the front with a diagnosis of neurasthenia and may be classified according to the gravity of the symptoms, which, however, are hardly ever the same twice over. The commonest signs are a harassed, worried expression, obviously shaken nerves, physical exhaustion, bad sleep, vivid dreams, are emotional, depressed or irritable, with poor memory, lack of concentration and attention, headache, and may be deaf, blind, stuttering, or paralysed in one limb. Others are tired and depressed, content to lie in bed, want no visitors nor books, hands tremulous, memory bad, with headache, insomnia and dreams. This condition is perhaps best described as "nervous exhaustion." Others complain of local sensory or motor disturbances and are emotional, irritable, crying when spoken to, resist all mental help, refuse to stay in bed, and protest that little is the matter with them. This is the neurotic type and blends with the above in all degrees. The symptoms are always referable to the strain of active service. Sniping is important, the ghastly sights of carnage are still more responsible, but the intensest strain is high explosive shell fire, with the speculation of how near the shell will burst and how long it will be before the spectator is blown to pieces.

Strain, however, is not the only causal factor, because the same strain has different effects on different individuals. Attention must thus be directed to the temperament and personal psychology of each patient.

At the time of the trauma, the psychical importance of the situation arises from the fact that it involves the risk of death. Against this the instinct of self-preservation rebels, employing as its weapon the powerful emotion of fear, which is a natural emotion and therefore ineradicable. Its function, like pain, is protective, dictating immediate flight, and can be coerced only by a still more powerful effort of will. Each new conflict of this nature is successful only at an increased cost of nervous energy, until the time comes when the individual can no longer hide from himself that he is afraid. He now goes in constant anxiety that others will find it out, and it is not now necessary for high explosive shells to cause him to lose his self-control. Once the breakdown has occurred, the symptoms vary according to the preexisting psychopathic tendencies of the patient, with which the war often has nothing to do.

The only treatment during the acuter stages comprises three items: (a) physical rest in bed; (b) mental quiet; and (c) good food. Isolation is best, and all

noise should be avoided. Once the acute stage is past several of the symptoms, *e. g.*, depression, listlessness, taciturnity, lack of confidence, etc., are traceable to the patient's self-criticism of his behaviour under fire, and are quickly relieved by getting him to talk freely, and explaining the facts to him in their true light. If further treatment is required, psychoanalysis is necessary, and the problem now becomes an everyday neurosis, the incidents of the war merely being the most recent in a life-time of mental strains. The percentage of cases requiring this is probably less than five. "With an increasing experience of these cases a very strong doubt rises as to the judiciousness of sending any cases of nerve shock, with few exceptions, back to the firing line" on account of "the marked deterioration, sometimes amounting to a total loss, of the fighting value of men who, after being shaken in nerves, have been compelled to return to the trenches." If this anxiety be removed, recovery is always speedier.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 21–23, Jan. 1916.

Hurst, Arthur F. Paresis and Involuntary Movements following Concussion Caused by a High Explosive Shell. Roy. soc. med., Neurol. section. Proceedings 8: 83-84, 1915

A soldier, aged 29, was knocked over by the explosion of a high explosive shell, and remained unconscious for two days. On regaining consciousness he could not move his right arm or left leg. Power in both limbs soon returned to some extent, but as soon as he tried to stand, violent involuntary movements occurred in his left leg. When he clenched his left hand an associated movement occurred in the right hand, but not vice versa. The plantar reflex was flexor, but Babinski's second sign, combined flexion of the thigh and pelvis, was positive. Suggestion produced no improvement, and etherisation had the effect of hypnotising the patient, so possibly the symptoms, although unusual, were organic in origin.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 26, Jan. 1916.

O'Malley, John F. Functional Aphonia. Roy. soc. med., Laryngol. section. Proceedings 8: 116, 1915

Four out of six cases recovered speech on being asked to phonate with the laryngeal mirror in situ for the purpose of examination, and a mild application of the faradaic current was effective for the other two.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 26, Jan. 1916.

Tilley, Herbert. Two Cases of Functional Aphonia (One Including Functional Deafness) Following the Bursting of a Shell in Close Proximity to the Patient. Roy. soc. med., Laryngol. section. Proceedings 8: 115, 1915

The first case recovered after a moderate intralaryngeal faradaic shock. In the second even a stronger faradaic shock would not restore phonation, and as he refused to open his mouth, the laryngeal electrode was passed through the left nasal cavity into the larynx, and the current passed until the resulting spasm induced marked cyanosis. On the removal of the electrode the patient's voice returned and he spoke for the first time for three months. The hearing also was restored at the same time.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 25–26, Jan. 1916.

Whale, H. L. Functional Aphonia. Roy. soc. med., Laryngol. section. Proceedings 8: 117, 1915

A case of sudden aphonia in the trenches without injury. Perfect movement of cords, but in adduction he ceases to expire. Sudden recovery from neurosis in twenty-four hours.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 208, May 1916.

Hurst, Arthur F., and Ormond, Arthur W. The Treatment of "Concussion Blindness." Lancet, Lond., Jan. 1, 1916, p. 15-17

Usually these cases have been rendered unconscious by an explosion in their immediate vicinity, and on regaining consciousness are unable to see. They are undoubtedly psychically blind, and maintain this condition indefinitely. They can be easily distinguished from malingerers.

The treatment here recommended is to take the men singly into a darkened room, and to tell them to relax their minds so that it becomes, as far as possible, a blank. When light hypnosis was induced, the patient was subjected to a "forcible suggestion from the operator, who reiterates the patient's ability to see and to open his eyes, and to assert very vehemently that he is not blind as he imagines, but that his eyes are perfectly sound, and that he *can* see." Seven cases are recorded. One very resistant case was given an anaesthetic, and suggestion was tried during the stage of semi-consciousness with marked success.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 25, Jan. 1916.

Myers, Charles S. Contributions to the Study of Shell Shock; (II) Being an Account of Certain Cases Treated by Hypnosis. J. of Royal army med. corps 26:642–55, May 1916; also in Lancet. Lond., Jan. 8, 1916, p. 65–69

Myers describes in detail four cases treated by him in France of total amnesia, rhythmical spasmodic movements, mutism, and stupor. All were treated by hypnosis, with satisfying results. He says: "After nine months' special work in France and Belgium upon these disorders, I have not the slightest hesitation in maintaining the genuineness of the cases above described. Many of the symptoms pointed to the absence of malingering."

Although the cases are described under headings determined by the most prominent disorders characterizing them, certain disturbances before hypnosis were common to all, *e. g.*, amnesia, varying from complete obliteration of the past to oblivescence of the scenes occasioning and following the shock, severe headache, and a mental condition varying from slight depression to severe stupor. Disturbances of sensation or movement were, if present, extremely variable. Mutism, when present, and the stuperose condition had begun to disappear, when hypnosis was attempted.

"When in a state of severe stupor, all that could be obtained from the patient were remarks as to the shelling, as if his condition were due to the concentration of the patient's attention on the scenes which had upset him. A little later an alternation of states often occurred. . . . Indeed in all these cases, whenever the memories dissociated from the normal personality were revived, they were accompanied by an outburst of emotion, sometimes of frenzy, but generally of fear. But in the cases described in this communication it was impossible to obtain any revival of the lost memory. Not even in dreams did it return. When such patients endeavored to think of their forgotten experiences, their headache become so severe as to prevent them from further effort. When, if mute, they endeavored to talk, they complained generally of a pain in the throat, usually as if someone were gripping their thyroid cartilage.

"These pains appeared to constitute the guardians of the condition of amnesia, any effort on the patient's part to break down the latter generally resulted in increased severity of the former. It is, therefore, not surprising that pains frequently caused the patient to wake from hypnosis as soon as his attention was directed to his forgotten memories or when attempts were made to get him to speak. Experience soon taught me that, before I could induce free speech during hypnosis, I must first dispel by suggestion all pain, soreness or discomfort in the throat, and that, before I could hope to revive lost memories during hypnosis, I must first suggest the disappearance of headache and prevent

the recurrence of any trace of it. Even then there was frequently a strong disinclination to talk of the forgotten periods, as if they were being actively inhibited or 'suppressed' rather than as if they had been passively 'dissociated.' When at length this reluctance was overcome, the attitude of the patient often changed from depression to excitement, especially when the former condition had been well-marked. His pulse and respiration increased in frequency, he sweated profusely, and not infrequently showed clear evidence of living again through the scenes which were coming vividly to his mind. After hypnosis, there usually followed a distinct change in the attitude of the patient. His previous despondency vanished; he was delighted at having recovered his speech and memory. Sometimes the change was so well marked as to appear like an alteration of personality."

Increase in the size of the pupils was noted in some cases, but in others the pupils, widely dilated before treatment, returned to normal size. Disturbances of cutaneous sensibility disappeared after hypnosis in some cases. Myers then gives the following summary of the immediate results of hypnotic treatment applied by him to twenty-three cases of shell shock.

1. Apparently complete cures, 26 per cent.
2. Distinct improvement, 26 per cent.
3. Failure to hypnotize, 35 per cent.
4. No improvement after hypnosis, 13 per cent.

Myers states that he had ample evidence to show that recoveries after hypnosis need not be immediately complete nor permanent. Cases to show this are cited. The writer argues from this fact that hypnotic treatment would prove of even greater value if it could be repeated at intervals later. He concludes with the following statement: "Surely this much may be taken for granted here, that the restoration to the normal self of the memories of scenes at one time dominant, now inhibited, and later tending to find occasional relief in abnormal states of consciousness or in disguised modes of expression—such restoration of past emotional scenes constitutes a first step towards obtaining that volitional control over them which the individual must finally acquire if he is to be healed. Thus the *minimal* value that can be claimed for hypnosis in the treatment of shock cases consists in the preparation and facilitation of the path towards a complete recovery."

Thomas, J. Lynn. Peripheral Shock and its Central Effects. Brit. med. j., Jan. 8, 1916, p. 44–45

A collier, one of the survivors in a big colliery explosion, found on recovering consciousness that he could neither hear a sound nor articulate a word. After remaining in this condition for a considerable time he went to a school for the deaf and dumb, and eventually married a congenital deaf mute. He resumed work, and was rendered unconscious for several days by a second underground explosion seven years after the first. On regaining consciousness his power of speech and hearing both returned. His power of singing, however, never came back.

Two types of shock were present in this case—the first occurring suddenly, the second with a latent period. It is only when this latent period is present that the psychic centers are able to exert any influence upon the nervous machinery of the emotions.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 209, May 1916.

Batten, F. E. Some Functional Nervous Affections Produced by the War. Quar. j. med., Lond., 9: 73–82, Jan. 1916

The cases here described are divided into five groups:

I. Cases with defined paralytic manifestations, hemiplegia, paraplegia of an hysterical nature (3 cases)

II. Mutism (3 cases)

III. Temporary loss of memory under physical and psychical stress (1 case)
IV. Tremors (2 cases)
V. Unilateral spasm of the muscles of the face and jaw (1 case).—A. Ninian Bruce, Rev. of neurology and psychiatry 14:209, May 1916.

Ormond, Arthur W. Treatment of "Concussion Blindness." J. of Royal army med. corps 26: 43–49, Jan. 1916

One of the principal ocular features of the present war is the number of cases of functional blindness due to explosions of shells, bombs, hand grenades, etc. "Usually the patient has been rendered unconscious by an explosion in his close vicinity, and on regaining consciousness he finds that he is unable to see. When examined he presents the following symptoms: The eyes are kept closed, the lids may be frequently "fluttered,' or, as one man stated, "he could not keep his eyes from twinkling." On attempting to open the lids the patient resists forcibly by means of his orbicularis; when this is overcome to a sufficient extent to see the globes, they are found to be rolled forcibly upwards, and the pupils are always kept covered by the lids; he has great difficulty in looking downwards and complains of pain and photophobia, and shows marked fatigue as a result of the examination. In some cases I have noticed acceleration of the pulse-rate and also perspiration. The photophobia is not, however, really influenced by light, as the condition does not diminish in very subdued illumination these patients never move about as blind men would, they invariably avoid hurting themselves; but all the same they never relax, even if watched for weeks at a time, the groping action of people with extremely defective sight, and judged by every test they maintain this condition indefinitely, and are undoubtedly psychically blind; the pupils react normally, and the fundus shows no definite change. There is no difficulty in differentiating them from malingerers, as they pass through long periods of real mental distress and serious discomfort. These cases vary enormously in severity; some recover rapidly, others seem to go on indefinitely if not treated or treated unsuccessfully. Any lack of recognition of the condition in the early stages enormously prejudices the prognosis. One case having been told that he was blind remained so for several months, whereas, probably, if it had been recognized earlier that he was not blind and would recover, he would have done so much more rapidly."

Captain Ormond then outlines various methods of treatment tried. With the earlier cases he worked on the principles of rest, tonics, deprivation or punishments such as abstention from tobacco, confinement to bed or in isolation rooms, persuasion, encouragement, counter-irritation, talking, but he found all these means comparatively ineffective until suggestion and hypnosis were tried. He had at first, a strong prejudice against this latter method of treatment and used it only as a last resort because so many patients still remained on his hands. Maj. A. F. Hertz collaborated with him in the treatment. The following description of this treatment is given:

"The method employed was to have the men singly in a darkened room, quiet, and resting in the most comfortable chair the ward would provide. They were instructed as to what was to be attempted and no demur was ever made by any of them, but on the contrary, after the first experience, they were always eager to continue the treatment. The patient had his eyes closed, of course, so that the assistance of light and fixation could not be obtained, but he was told to think of something pleasant and agreeable, not to take the slightest notice of the operator, and to relax his mind by attempting to stop all incoming thoughts and to make his mind, as far as possible, a blank; we then used the usual modes of inducing hypnosis. In some cases . . . the hypnotic condition was obtained, but not in all, and I do not think it at all necessary to obtain complete unconsciousness; the main thing to be arrived at is to obtain a relaxation of the patient's mind and his muscles, and to overcome his unconscious resistance.

The treatment is carried on thus for a few minutes and having obtained the sleepiness or light hypnosis necessary, the patient is subjected to a forcible suggestion from the operator, who reiterates the patient's ability to see and to open his eyes, and to assert very vehemently that he is not blind as he imagines, but that his eyes are perfectly sound and that he can see. The results have varied considerably as to rapidity of recovery, but all have shown marked improvement."

Case records of several patients treated by Major Hertz and Captain Ormond follow.

Thomson, D. G. Descriptive Record of the Conversion of a County Asylum into a War Hospital for Sick and Wounded Soldiers in 1915. J. ment. science, Lond., 62: 109–35, Jan. 1916

The scheme of arrangements for vacating asylums for war office use, as drawn up by the Board of control, is quoted. This is followed by a reprint of the scheme prepared by the same Board for the general administration of the vacated asylums, and the details of the reimbursement which the War Office undertook to make to the receiving and vacated asylums, with supplementary observations. The suggestions offered by the Board for simplifying the medical and clerical work in connection with the vacating of the asylums are next quoted in full.

The writer devotes the rest of the article to a description of the necessary structural changes involved in the conversion of an asylum into a military hospital, followed by a description of the required staff of doctors, nurses, orderlies and servants.

Vincent, William. Use of Asylums as Military Hospitals. J. ment. science, Lond., 62: 174–78, Jan. 1916

The article is a description of the process of transforming the South Yorkshire Asylum, Wadsley, near Sheffield, into the Wharncliffe War Hospital for sick and wounded soldiers. Details, beginning with the transferring of the inmates of the asylum, are given in full.

Mott, Frederick W. Effects of High Explosives upon the Central Nervous System (Lettsomian lecture no. 1) Lancet, Lond., Feb. 12, 1916, p. 331–38. Illus.

FUNCTIONAL NEUROSES AND PSYCHOSES

The production of functional neuroses and psychoses in a soldier is greatly favored by a neurasthenic condition, whether from a tendency inherited or acquired from the stress of wartime experiences.

The effects of high explosives upon the central nervous system may be divided into three classes. 1. Immediately fatal, either from wounds caused by shell, rocks, etc.; or the person may be buried from the explosion of a mine. Sometimes instant death has occurred in groups of men from the effects of shell fire, yet no visible injury has been found to cause it. 2. Cases in which the detonation of high explosives has caused injuries to the body, including the central nervous system, that have not been immediately fatal. "The number of these cases which do not exhibit any of the functional disorders and disturbances characteristic of what is termed 'shell-shock' without visible injury, although such individuals have received most serious and fatal wounds from exploding shells, leads one to consider that in a large proportion of cases of shell-shock without visible injury there are other factors at work in the production of the nervous symptoms besides the actual aerial forces generated by the explosive." 3. The third group includes injuries to the central nervous system without visible injury. This may happen through direct aerial compression, or by the force of aerial compression throwing the soldier into the air or against the side

of the trench, or by blowing a wall or roof down on to him, causing concussion; or by his being hit on the head or spine by a sandbag. Also, he might be buried and partly asphyxiated, or suffer from deoxygenation of the blood through CO poisoning, of which high explosives contain so great a quantity.

When enormous aerial compression is generated, the ordinarily incompressible and hence protective character of the cerebro-spinal fluid is altered, and it is probable that the compression is transmitted to the fluid about the base of the brain, causing shock to the vital centres of the floor of the fourth ventricle, resulting in instantaneous arrest of the functions of the cardiac and respiratory centres. Lord Sydenham concludes that the forces generated are sufficient to cause instantaneous death. It has been estimated that the sudden atmospheric depression in such cases corresponds to a dynamic pressure of about 10 tons to the square yard. "One effect of this is to liberate nitrogen suspended in the blood and transform it into bubbles of gas which are driven into the capillary vessels and cause instant death." A shock of sufficient intensity would also make itself felt in all the neurons composing the central nervous system. Through anatomically and functionally correlated neurons, shock affecting one part of the nervous system may be transmitted to remote parts. "In haemorrhage into the internal capsule, we have a sudden irruption of blood cutting through the pyramidal efferent system of fibres, resulting in a flaccid paralysis of the opposite limbs." A case of hemianopsy, caused by a bullet wound of the skull, resulting in complete blindness, but not deafness, is described as another example of temporary dissociation by shock. This temporary dissociation by shock of anatomically and functionally correlated systems of neurons has been termed diaschisis.

The writer then describes in detail the physiological effects of shock upon the living neuron. The results of these effects may be not only dissociation of the cortical perceptor neurons, producing unconsciousness or a disturbance of consciousness, but for a varying period of time destruction of the power of recollection of perceptions prior to the shock, of the power of recognition, and even complete loss of consciousness of the external world.

An essential for consciousness is a continuous supply of oxygen through the capillary system to the intercalary neurons, otherwise they cease to function, causing dissociation. Any violent emotion affects the vasomotor centre and heart's action, causing a fall in blood pressure and so producing an immediate lowering of oxygen tension in the fluid. This causes suspension of function of the intercalary neurons of the cortex, followed by dissociation of the cortical perceptors and loss of consciousness.

"The symptoms of headache, weariness, loss of power of concentration, irresolution, and mental fatigue constituting a neurasthenic condition so frequently found as a result of shell-shock may be explained by the habit of drawing on the reserve of neuro-potential, and being unable through insomnia or sleep disturbed by terrifying dreams, worry and anxiety to restore the balance and return to the normal conditions of automatic renewal of nervous energy as fast as it is used. Physical shock accompanied by horrifying circumstances, causing profound emotional shock and terror, which is contemplative fear, or fear continually revived by the imagination, has a much more intense and lasting effect on the mind than simple shock has."

The article is concluded with a description of the nature of high explosives and forms of projectiles, and a discussion of theories regarding causation of instantaneous death of groups of men.

Dawson, G. de H. A Case of Shell Concussion; Treatment by General Anaesthesia. Lancet, Lond., Feb. 26, 1916, p. 463-64

A soldier, aged 30, was partially buried in a mine explosion. On admission to hospital he was deaf, dumb, and could not read. Later he passed into a stu-

porose condition. The onset of these symptoms was delayed until admission to hospital. He was given gas for dental extraction, partly in the hope he would recover his speech by crying out. He was still in rather a shaken state, and the condition was rather aggravated than otherwise, without improvement. He began to improve slowly, could whisper words, but relapsed, becoming sulky, melancholic with inertia, and loss of volition. This improved until he later seemed to lose heart and the will to get better. He was sent to an auxiliary hospital in the country. While there he was given a day's leave, came up to London, and became intoxicated. In this condition he began to laugh and talked aloud. With the restoration of his speech he lost all nervous irritability and sulkiness, and became bright and happy. He, however, remained deaf, and strong galvanic and faradic currents to the ears did not benefit him. He was anaesthetised with gas and ether in bed, went under quietly, and as he was coming round was told he could hear quite well. He became very excited and hysterical, and thenceforth heard perfectly with his right ear. The left ear showed later all the signs of labyrinthine deafness. Five months had elapsed since his hearing had been lost.—A. Ninian Bruce, Rev. of neurology and psychiatry 14:208–09, May 1916.

Mott, Frederick W. Effects of High Explosives upon the Central Nervous System (Lettsomian lecture no. 2) Lancet, Lond., Feb. 26, 1916, p. 441-49. Illus.

Noxious Gases

"Many of the symptoms of CO poisoning are similar to those which I have observed in shell-shock with burial. It must not be supposed that in poisoning by illuminating gas or CO poisoning recovery is always complete, nor that the mental symptoms are always only of a transitory nature. It often takes months for the effects of the poisonous action of CO on the heart and nervous tissue to wear off, and in certain cases the damage is permanent."

The first decided symptoms occur when the blood is saturated with about 30 per cent of CO; with every degree of saturation up to 50 per cent, dangerous symptoms increase until loss of power and staggering prevent escape. Even after prolonged exposure to .1 per cent of CO recovery is possible; with .2 per cent loss of consciousness and power occur and in course of time death ensues; exposure to .3 per cent proves rapidly fatal. As the gas has no odor, soldiers would be unaware of its presence, and lying unconscious or buried in a trench which was being heavily shelled, they might easily be poisoned by the gas without knowing it.

The symptoms of CO poisoning are "headache, which may take the form of distension of the head without pain, ringing in the ears, interference with vision, which may become indistinct and blurred, hallucination of sight and even blindness, giddiness, especially on exertion, powerlessness, yawning and weariness, often vomiting, shivering and feeling of cold, palpitation of the heart, and a feeling of oppression in the chest. . . . When men affected regain consciousness they appear dazed and stupid, and generally have no recollection of what happened. There is mental confusion, and they seem to have no power of concentration of thought, and they are unable to answer questions properly. Indeed, some of them look as if they were recovering from a drinking bout. The slightest anxiety or excitement will bring on a return of the symptoms complained of, such as tightness or oppression in the chest, palpitation and various pains and feelings of distress about the head while beads of perspiration may appear on the forehead. . . . Persons with a nervous predisposition . . . are more susceptible to the effect on the nervous system."

A very important derangement of the mind in CO poisoning is loss of memory. This may be characterized by intense retrograde amnesia together with loss of

recognition. Sometimes a whole period of time is erased from the mind. Other symptoms are speech disturbances. The power of speech may be lost for some time or it may come back after many days. In some cases there is difficulty in uttering words, as though it required great effort to speak on the part of the patient. There is often repetition and reiteration of words and phrases. When this affection is of long duration, there are usually other mental symptoms. Tremors frequently occur. "These symptoms so accord with those functional disorders of the central nervous system which have so frequently been found to occur in shell-shock with burial that one naturally thinks it possible that while lying unconscious at the bottom of a trench or dug-out sufficient CO is inspired to cause these severe effects on the mind which some of these cases exhibit."

The writer next discusses histological changes in the brain in CO poisoning, shell-shock, and spinal concussion. Three cases are reported for illustration. Reproductions are given of photographs and photomicrographs, showing haemorrhages and cell disturbances of the brain from the above-mentioned causes.

There may be also poisoning by oxides of nitrogen. This, however, acts more as an irritant on the respiratory passages, causing pneumonia. Pneumonia may also supervene in CO poisoning.

The similarity of symptoms and histological changes in the brains of persons who have died from CO poisoning and those who have died from shell-shock with burial suggests the desirability of examining the blood during life for CO poisoning in severe cases of shell-shock without visible injury and where burial has occurred, especially if some time has elapsed before excavation.

The writer then gives a brief recapitulation of the possible effects of the detonation of high explosives on the nervous system in cases where there is no visible external injury. These are:

1. Commotion from the aerial compression.
2. Concussion with or without burial.
3. Decompression with embolism, by bubbles of N and CO_2.
4. Inspiration of CO during the aerial compression.
5. Prolonged inhalation of noxious gases while lying unconscious or partially buried.

"The mental and bodily conditions of the individual at the time of the shock may be classified as follows: 1. Inborn: (a) Timorous disposition and anxious temperament; (b) Neuropathic or psychopathic inheritance. 2. Acquired: (a) Locus minoris resistentiae in the central nervous system in consequence of alcoholism, syphilis, or previous head injury; (b) Lowered neuro-potential, the result of a post-febrile neurasthenia; (c) Nervous exhaustion, the result of mental stress, anxiety, insomnia, and terrifying dreams; (d) Bodily exhaustion from fatigue, cold, wet and hunger.

"A large majority of the cases of so-called shell-shock admitted with functional neurosis in some form or other occurred in individuals who either had a nervous temperament or were the subjects of an acquired or inherited neuropathy. In a certain number of cases the cumulative effect of active service, often combined with repeated and prolonged exposure to shell fire and projectiles containing high explosives, had produced a neurasthenic or hysteric condition in a potentially sound individual. Some of the worst cases have occurred in soldiers and non-commissioned officers of years' standing—men of excellent physique who have led active lives without any evidence of a nervous breakdown; some, indeed, have fought in the South African War, and in this campaign had been in many battles and engagements without previously exhibiting any neurasthenic symptoms, but at last the nervous system gives way. Such men have not, as a rule, succumbed from a single 'shell-shock,' unless it was one of the big 'Jack Johnsons,' but only after a third or fourth, and when they have been run down with the stress and anxiety of continuous apprehension and dread of

the enemy surprising them. On the other hand, there are the more or less rapid breakdowns who give usually a history of either previous head injury, or of a nervous breakdown in ordinary life, or after some special stress indicative of a nervous temperament or a neuropathic disposition. Among the large number of officers I have sent back on account of neurasthenia, a considerable number associated with shell-shock, I have not observed a single case of functional paralysis or mutism."

The remainder of the article is devoted to a discussion of epilepsy as influenced by shell-shock. Brief details are given of 25 cases returned from the front and treated by Dr. Mott. His opinion is that "cases which were said to have developed epilepsy as a result of shell-shock were, generally speaking, individuals whom it might fairly be assumed were either epileptics or potential epileptics prior to the shock."

Mott, Frederick W. Effects of High Explosives upon the Central Nervous System (Lettsomian lecture no. 3) Lancet, Lond., March 11, 1916, p. 545–53

Symptomatology of Shell-Shock

The symptoms of shell-shock as regards degrees of effects on consciousness may vary from a slight temporary disturbance to complete unconsciousness, with stertorous breathing continuing till death. Sometimes the men wander away from the trenches and are found in a dazed condition unable to account for their actions or to recollect how they came there. This condition is not unlike the fugue or automatic wandering of the epileptic.

The author next discusses amnesia as a condition resulting from shell-shock. Four cases are cited, in three of which music and songs familiar to the patient were used to arouse the power of recollection.

Psychic trauma and the effects produced by terrifying dreams are illustrated by reports of several cases.

Various forms of speech defects are common: mutism, aphonia, stammering, stuttering, and verbal repetition. The most frequent is mutism. Various cases are cited, in many of which cure was effected through a surprise or shock of some kind. The pathogenesis of mutism is described in detail and opinions of various authorities cited.*

Headache is one of the most common symptoms associated with shell-shock. With recovery of consciousness this tends to become acute. The commonest situation for the maximum pain is the occipital region and the back of the neck. The pain is variously described as burning, stabbing, or a heavy dull dizzy feeling, a feeling like a tight hat or a red-hot wire being run through the temples. It is worse at night, and seems to be correlated with thoughts of terrifying scenes and is increased when the mind tries to thrust these aside, or with any effort to concentrate.

Cardiac and vasomotor disturbances are palpitation, breathlessness on exertion, and praecordial pain. There may be physical signs of dilatation and tachycardia. The pulse is often small and increased in frequency; the blood pressure is never high. The hands are frequently blue or mottled and cold, with a clammy sweat of the palms. Surface temperature may be very low. The temperature of the hands varies according to the temperature of the room.

Cutaneous and deep sensibility of the body may be affected, or, in severe cases, sometimes loss of skin sensibility to all forms of stimulus, and also of deep sensibility are found. The extent and degree of this loss of sensibility is variable. Hyperaesthesia is more common than anaesthesia.

*For a fuller discussion of the disturbances of vocalization see Mott, Psychic Mechanism of the Voice, etc. Brit. med. j., Dec. 4, 1915, and p. 22 of this book.

Hearing is often completely lost, frequently together with speech so that there is a condition of functional deaf-mutism. Sometimes a man is deaf on one side only, from a ruptured tympanum or from wax driven forcibly against the drum. Auditory hallucinations are common, and hyperacusis is frequent, exciting the patient's nervous condition and aggravating headache.

Sight may be seriously affected during the acute stage, but it is commoner for the patient to complain of "smoky vision." Failure of accommodation and sluggish reflex are not uncommon in acute stages. Occasionally there is diminution of the visual fields. Some cases of photophobia were met with, but this is usually due to gas or irritating substances in the eye. This was often associated with blepharospasm. A few cases of functional blindness have been treated. Loss of sight, hearing and speech is sometimes associated with acute hyperaesthesia.

Tremors are very common and constitute a serious disability. They may be coarse or fine, general or affecting only parts of the body, continuous during the waking state or absent during sleep. Most often they are rhythmical coarse tremors like those of paralysis agitans. A true functional tremor may be distinguished from a malingerer's tremor by making the patient count slowly and quickly. If the rhythm remains unaltered the tremor is truly functional. A case of functional tremor completely cured by suggestion is cited.

Various tics, which may, however, have existed prior to the war, have been observed. Choreiform movements, probably due to unconscious imitation of other patients, have been noted.

Functional paralyses are frequent, the most common being paraplegia, but hemiplegia and monoplegia are also found. Suggestion of injury often plays an important part in causing and maintaining a fixed idea of paralysis.

There are many different gaits. There are a refusal to walk, dancing tremor as if the legs were on springs, slow shuffling with feet wide apart, dragging the soles of the feet, and a gait assumed by patients who have been allowed to think they have to be supported by two sticks in order to walk, causing a persistent leaning forward, sometimes amounting to a complete bending double of the body. In such cases the supports should be taken away at once.

"Be cheerful and look cheerful is the note that should ever be sounded to these functional cases. Sympathy should not be misplaced although it should be shown to all these poor fellows who have a fixed idea of never recovering: it is not their fault, it is a real thing to them, and no one could be more grateful than these cases of functional nervous disability for cheery words. I use many of these cases that have recovered as object-lessons. I do not find hypnosis or psychoanalysis necessary or even desirable; only common-sense and interest in the comfort, welfare and amusement of these neurotic patients are necessary for their recovery. The conditions at Maudsley Hospital will be all that can be desired. There are light airy wards, and day rooms for meals and recreation, plenty of single rooms for the isolation of cases that are troubled with noises or require special attention; and especially valuable are the baths, so that every soldier can get a warm or cold spray every day. The warm baths, and especially the continuous warm baths, of which there are eight, are especially valuable for promoting the action of the skin, of relaxing the tired muscles, and by their soothing influence helping to induce sleep, so that less hypnotics are required to be employed.

"Diversion of the mind from the recollection of their terrifying experiences is essential for successful treatment. This can be best accomplished by the provision of every form of healthy indoor and outdoor amusements—*e. g.*, books, games and music. These are better in a recreation hall where convalescent patients can enjoy themselves. I have alluded to the hypersensibility of many of these patients to sounds, consequently neither gramophones nor billiards should be within the hearing of these acute cases. The out-patients' waiting-room will be utilized at the Maudsley Hospital for recreation. . . ."

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Neurasthenia among Soldiers-
16. p. 464–65

as many medical casualties as all the other complaints, such as rheumatism, pulmonary catarrh, etc., put together. 50 to 70 per cent of these neurasthenic patients complained of symptoms referred to the heart, but only about 5 per cent suffered from real heart disease. Most of these patients, particularly the middle-aged, did not wish to recover, dreading a return to the front. Radical measures were necessary in order that the army should not be deprived of the services of this large body of men; they should not be sent home, but should be kept in convalescent quarters behind the front. Dr. Albru gave an account of his many failures earlier in the war in such cases. At first he kept his patients in bed, often for many weeks; he seldom found them any better, and even when tachycardia was diminished by rest in bed, it usually returned as soon as the patient began to move about again. He had given up this treatment and drug treatment also, having found that even bromide preparations were quite useless. Far better results were obtained when the patients were made to walk and were given light work, and when everything was done to distract their attention from their symptoms. A third speaker, Dr. Von Hausemann, whose experience was gained in a convalescent institution, also emphasized the importance of treating these cases as psychic rather than as organic. He gave his patients plenty of freedom to walk about, so that they might learn to rely on themselves again. The influence of patient's wife and children was, he said, most detrimental.

Rows, R. G. Mental Conditions Following Strain and Nerve Shock. Brit. med. j., March 1916, p. 220–21

The author, who is in command of the Military Hospital, Maghull, draws attention to the unique opportunity afforded by war conditions of studying psychic disturbance in the early uncomplicated phase.

Disturbances of an intense nature may result from shock, and, as in civil life, may disappear under rest and quiet in hospital. Unfortunately, however, partial recovery only may take place accompanied by a change in feeling tone, or change in personality acutely appreciated by the patient himself. From this arise anxiety and apprehensiveness.

In some cases a morbid emotional state, occasioned by a special emotion such as fear or terror, may persist, and tends to be linked up with the memory of some past incident of a disturbing nature. Marked improvement can be effected by scientific examination back to the period of the disturbing incident, accompanied by an explanation of the causative psychogenetic mechanism. Sometimes the mental disturbance is complicated by hallucinations and dreams, and here again improvement follows when the mechanism of the disorder is explained to the patient.

The mental illness is frequently prolonged by the memories of past experiences of an emotional nature which assume undue importance in the patient's consciousness, and at times are revived in dreams. These memories of past events can be added to those of more recent events which occurred during the war, conferring upon the latter a greatly exaggerated emotional tone.

From the cases illustrating the above points the writer concludes that the term "shock" is inadequate to explain all the conditions arising in the morbid mental state of those who are returned from the front, and draws attention to the importance of the morbid "residuum" in the mental phenomena remaining after partial recovery. The cause or causes of this residuum must be investigated, and it will frequently be found that, owing to the lowered self-control induced by the effects of war conditions, a feeling of apprehension and of change of personality assert themselves, which are recognised but cannot be explained by the patient. All incidents, therefore, associated with heightened emotional tone become unduly prominent, and maintain the morbid state by fixing the patient's attention in this direction. Hallucinations and delusions may then

follow as a result of the patient's attempts to explain his altered personality to himself, and it is at this stage that psychotherapy becomes most useful by the physician's explaining in simple language the mechanism of the trouble, thus enabling the patient to recognise the true relation of cause and effect in the origin and development of his illness. Once this confidence of the patient has been gained by sympathetic treatment and patience, the process of reeducation may be pursued.—David Orr, Rev. of neurology and psychiatry 14: 220, May 1916.

Harwood, T. E. A Preliminary Note on the Nature and Treatment of Concussion. Brit. med. j., April 15, 1916, p. 551

In the treatment of neurasthenic conditions arising in the course of the war one point would appear to have attracted but little attention. Almost every patient will be found to have more or less difficulty with reading. This is usually taken for granted, and passed over as a mere incident. Neurasthenia affects all organs and tissues, although its effects are usually more marked upon some than others. It causes a lowered efficiency. The ciliary muscle is affected equally with the rest of the body, with the result that the smallest errors of refraction frequently become almost insuperable difficulties. Asthenopia following head injury or concussion is rarely due to any definite injury of the eye or its nerve supply, but simply to an inability of the ciliary muscle to make the smallest effort. Giddiness is far more diagnostic of ciliary paresis than is headache.

By correcting the refractive error, the work which the eyes have to do can be reduced to a minimum, and a correspondingly smaller strain incurred. Refractive errors are universal, and only require care and patience to find. The effect of correcting them in acute cases is dramatic, and if patients with head injury or concussion are not rapidly improving, their refraction should be estimated under atropine, and accurate glasses supplied. The object to be aimed at is to leave a minimum, and as far as possible equal, amount of error for each eye to correct.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 209–10, 1916.

Smith, G. Elliot. Shock and the Soldier. Lancet, Lond., April 15 and 22, 1916, p. 813–17 and 853–57

The subject is dealt with under the following headings: the importance of diagnosis, the development of the symptoms, the influence of the individual's life history, the relation of correct diagnosis to treatment, the real trauma is psychical not physical, what should be done with shock cases after discharge from hospital, heredity, treatment, isolation, hypnotic suggestion, and general considerations.

In our system of selecting recruits the man with a varicocele or slight hernia is rejected, while no measures are taken to exclude the mental weakling, and, even after such have broken down, they are liable to be sent back to the firing line, although useless as combatants.

If the dreams in cases of shell shock be examined, it will often be found that such are not merely memories of incidents at the front, but in many cases blended with episodes utterly alien to the war, and tactful cross-examination will often lead up to some event in the patient's past history, the revivified emotions associated with which the war incidents have served to awaken by stirring up similar emotions. The terms "hysteria," "neurasthenia," etc., are essentially labels given to groups of symptoms after they have become more or less stereotyped and systematized by each individual patient. In cases invalided from the front, this process of systematisation has not gone very far, and, by labelling the outstanding symptom "hysteria," etc., there is a danger of overlooking the essential identity of the fundamental causes and nature of the trouble to be dealt with. The many-sided manifestations of "shock" are in large measure determined by the inherited nature of each individual patient, and by his previous history and

experience. In many cases, however, the intensity and horror of the trauma are sufficient to explain the causation and to determine the form of the mental disturbance. As the culmination of months of mental strain and emotional stress, some terrifying experience indelibly imprints itself on the patient's mind, and forces him to continue day and night, for weeks together, to see again and live the awful moments. His attention becomes wholly concentrated upon this experience, and if left to himself he will systematize these new sensations until they become definite hallucinations and delusions. If these are interpreted to the patient before they are stereotyped, the development of systematized delusions and hallucinations can be prevented. The basis of a delusion is usually a misunderstanding, which could be cleared away if detected early enough.

Many of the troubles from which such patients are afflicted are not in any way indicative of insanity, though the patient thinks they are, *e. g.*, the appearance of pre-sleeping hallucinations to a man who had always been accustomed, before the war, to fall asleep before such intense mental images. Telling a patient who is worrying about such hallucinations that they occur to quite normal people, and explaining them to him, may be sufficient to clear away most of his mental trouble.

While treatment by isolation has obvious advantages in certain cases, in the above it is often dangerous, for it affords the patient every chance to brood upon and cultivate his initially mild derangements.

The strongest man, when exposed to sufficiently intense and frequent stimuli, may become subject to mental derangement. Even those cases where there is a definite history of a neurotic parent should not too hastily be attributed to heredity. For when the detailed history of such patients is obtained, the fact comes out quite clearly that the social disturbances in the household of such a nervous person may be amply sufficient to inflict severe psychical injuries upon young children. Further, in many cases the histories themselves clearly and definitely reveal the real etiology of the mental condition, and point to emotional disturbances in children, due to the cruelty of drunken parents, a rankling sense of injustice, a terrifying experience, which might have been an accident or deliberate maltreatment by some human being, or again, to the appalling conditions created in some of these soldiers' homes by nervous and irritable parents, as the real trauma which the shock has served to reawaken.

Psychological treatment of this type of case may be divided into two classes: The first believes it is sufficient if the real cause of the trouble is discovered and explained to the patient. The second looks upon the preliminary psychical examination merely as a means of diagnosis, the unveiling of the hidden cause of the trouble, and considers that the treatment should be the laborious and often lengthy process of re-educating the patient, and so restoring to him the proper control of himself. There is, however, no real line of demarcation between the two schools.

In regard to the treatment by isolation of such patients as exhibit hysterical symptoms, a certain proportion do make a complete recovery, but in other cases, especially those where the whole of the symptoms are determined or influenced by the revival of some painful experience of the past, isolation may not only be ineffective, but even positively injurious. For by removing the patient from all distracting influences, you throw him upon his own resources, and practically force him to brood over those very memories which are at the root of all his trouble. The treatment of hysteria by isolation has been developed in civil practice, and the same conditions do not hold for the soldier, as, by bringing him from the trenches to the hospital, you have already removed him from the circumstances causing the breakdown, and, as regards discipline and routine, he has already been subject to such training. Many men cannot stand isolation for long, and feel that a few hours of freedom would more than compensate for the later punishment.

In the great majority of cases of some considerable duration, and in practically all of those in which the trouble is due to some ante-war worry or emotion, it may be regarded as probable that hypnosis is of no use, and in many cases may be positively harmful, for under such circumstances, even with the most favorable conditions, it would result merely in the removal of symptoms; and the removal of one may be followed by the appearance of another, which may even be induced by the process of hypnosis. Moreover, in cases where there is a tendency to the development of a double personality, hypnosis may have the effect of emphasising the risk. Further, if the patient has sufficient of his own will power to enable the process of re-education to be carried out, it is clearly undesirable, both on psychical and ethical grounds, for the doctor to impress his influence from without.

The incipient forms of mental disturbance which the anxieties and worries of warfare are causing ought to impress upon the attention of every one that such causes are also operating both in war and peace, and are responsible for a very large proportion of the cases of insanity, and it is precisely these cases which, if diagnosed in the early stages and treated properly, can be cured. The chief hope of reducing the number of patients in asylums for the insane lies in the recognition of this fact, and acting upon it in the way of providing institutions where such incipient cases of mental disturbance can be treated rationally, and so saved from the fate of being sent into an asylum.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 210–13, May 1916.

O'Malley, John F. Warfare Neuroses of the Throat and Ear. Lancet, Lond., May 27, 1916, p. 1080–82

The chief neuroses of the throat and ear met with in the present war are:

1. Functional aphonia.
2. Mutism.
3. Loss of volitional coughing.
4. Functional deafness.

In functional aphonia vocal sounds are absent, the larynx is passive, but whispering, which is produced by the resonating cavities of the pharynx, mouth, and nose, remains. In mutism, both vocal and whispered speech are absent, the larynx and resonating cavities being passive, but the patient may make lip and facial movements as if attempting to speak. Aphonia is the commonest of the neuroses, aphonia with loss of volitional cough comes next, mutism being rarer. Deafness alone is rare, but mutism with deafness seems to be the least frequent of all. Functional aphonia may have a laryngeal catarrh as a physical basis.

The author has treated twenty-four cases in all, of which seventeen were aphonia alone, and only one mutism alone. The loss of speech was usually treated by asking the patient to phonate with a laryngeal mirror in position. If the cords do not approximate, rubbing the fauces and pharynx usually excites secretion and reflex abduction of the vocal cords with cough.

Functional deafness was treated by exciting the vestibular apparatus as follows: Cold or hot water is allowed to flow in a steady stream into and out of the external auditory meatus by means of a tube attached to a receptacle placed about one and a half to two feet above the patient's head, and continued until he becomes very giddy and an active nystagmus is produced. A speaking tube three feet long is then used by placing the ear-piece in the ear so treated and shouting down it "You hear now," when the answer "Yes" comes promptly. The tube is now dropped, and a conversation held as if no deafness ever existed.—Rev. of neurology and psychiatry 14: 207–08, May 1916.

Turner, William Aldren. Arrangements for the Care of Case Nervous and Mental Shock among Soldiers Coming from t seas. Lancet, Lond., May 27, 1916, p. 1073–75; also in J. of A army med. corps 27: 619–26, Nov. 1916; also in Ont. hos insane. Bull. 9: 10–19, July 1916

The article gives an account of the various provisions in England and Sc for the care of war neuroses and psychoses from the beginning of the wa 1916. Disposal of patients is discussed, and kinds and methods of ca treatment in the clearing hospitals, neurological sections, special institutic mental hospitals are outlined.

Campbell, Harry. War Neuroses. Practitioner, Lond., 96 : 5 May 1916

Dr. Campbell, after commenting upon the small proportion of nervous downs caused by the war in spite of insufferable conditions of living, dangers and strain sufficient to upset the equilibrium of the most stable system, states his conclusion that war neuroses and psychoses are found among those possessing unstable nervous systems.

He names three etiological factors in these neuroses—the noise of the e shells, the violent atmospheric concussion, and the fear caused by the t war conditions.

The noise of the shells is an important factor in the production of deaf- The mutism is probably partly due also to fear.

The violence of shell concussion may be so severe as to cause unconsc When this state is over, blindness, deafness, mutism, amnesia, paralysis neuroses may be present. He quotes Dr. James Collier's opinion that t roses are less likely to occur when the explosion causes immediate unc ness, than when an interval of consciousness allows the sufferer to re situation.

Fear may cause neuroses with tremor, palpitation, sweating, retra terrifying dreams and nightmares.

Dr. Campbell classifies war psychoneuroses under four heads—insan rasthenia, psychasthenia and hysteria.

Actual insanity is less common than might be expected. When it d it conforms to types found in civil life, such as dementia praecox, whi most frequently. In such cases, there was probably a decided pre-exis ency to insanity.

Some of the symptoms appearing in war neurasthenia are tachyca and coarse tremors, nervous agitation, profuse sweating and persistent f author considers these neurasthenic patients to be, for the most part, neurotics. Nystagmus is practically unknown as a purely functional

Cases of war hysteria show paralyses (hemiplegia, paraplegia, m contractures, tremors, anaesthesias, amnesia, blindness and dea Hysterical fits are rare. The paralyses are usually accompanied by a Contractures are less common than paralyses. Anaesthesia, like pa usually unilateral and often is confined to the region of an injured par tional blindness and deaf-mutism are practically always caused by s Cases of blindness are decreasing as the war continues. The blindne absolute; generally there is only a blurring of vision or a contraction of field. Deaf-mutism is much more frequent than functional blindi patients are not seriously affected intellectually. Nine-tenths recove weeks. Hearing almost always returns before speech. Cases of funct ness differs from those of labyrinthine deafness in three respects: (1 ness is absolute so far, at least, as the primary personality is concerne pupils respond to the whistle; (3) Barani's reactions cannot be eli

though the deafness is absolute, the patient may be able to hear subconsciously. Hallucinations of hearing are often present, and stammering is not infrequent.

Epileptics, of which many enter the service, rarely have seizures during active exercise. Epilepsy may follow shell shock in cases where there was probably a predisposition.

"Cases of malingering are by no means always easy to diagnose, for there is no sharp dividing line between downright malingering, mere exaggeration, subconscious malingering, and actual disease; each class merges into the next. It is not, therefore, surprising to find that physicians differ as to the frequency of malingering among soldiers. Thus M. Dejerine and M. Pierre Marie, both of whom have had a large experience in war neuroses, hold widely different opinions on the question. M. Dejerine declares that no single case of malingering has come before him, and he considers that, both among soldiers and injured workmen, the frequency of malingering has been much exaggerated. The fact that the latter so often recover quickly after being compensated does not, in his view, necessarily prove wilful imposture, inasmuch as anxiety as to ways and means may retard recovery, and, once this anxiety is removed, it is not (so he argues) surprising that rapid recovery should often ensue. M. Marie, on the other hand, regards malingering among soldiers as common. Of forty patients, no less than nine were regarded by him as actual shammers, or at least exaggerators. These latter, as well as subconscious shammers, should, he insists, be subjected to the strictest discipline. M. Gilbert Ballet points out that a man may begin by shamming, and, as the result of auto-suggestion, end by developing the condition simulated, thus becoming the victim of his own chicanery. As for my individual experience, I have met with very few cases of malingering among our soldiers." Dr. Campbell comments further upon the difficulties involved in detecting actual malingering; he gives a test for sham sciatica.

As to treatment of war neuroses and psychoses, he says: "Soldiers suffering from functional nervous disorders should be sorted out as soon as possible, and be placed under special treatment; otherwise, they pass from one hospital to another and become chronic. This is above all necessary in the case of hysterical disorders. Experience shows that these can generally be cured rapidly while yet in the nascent stage, but that they tend to become obstinate and fixed if treated as organic diseases. . . . There is some danger in allowing large numbers of purely functional cases to consort too closely together, but this can be guarded against by making use of small wards and screens, and by not allowing patients to mix, who are likely to affect one another injuriously. Neurasthenic patients are best treated by rest and common sense. Hysterical cases need kindness, combined with the strictest discipline. The physician should, as Babinski puts it, assume authority. . . . Much good may be done by suggestion in hysterical cases, especially in the early stages. . . . Suggestion is especially useful in hysterical blindness. . . . The method of surprise may also be efficacious in this affection. . . . Deaf-mutes are more refractory. These cases are best treated, as Dr. Dundas Grant suggests, by re-educating the voice by the method adopted in institutions for the deaf. Stammering is treated in the ordinary way. The treatment of hysterical contractures often presents considerable difficulty. One plan is to over-correct the deformity by means of a plaster of Paris splint. . . . This treatment should be combined with suggestion, tactfully reiterated. . . . Massage and electricity should be avoided in hysterical cases."

Wiltshire, Harold. Contribution to the Etiology of Shell-Shock. Lancet, Lond., June 17, 1916, p. 1207–12

Early in the war attention was drawn to the results of the use of powerful explosives upon the nervous system. These became manifest in a condition, which, for want of a better term, was called neurasthenia and later "shell-shock."

The syndrome was so frequent that many believed it to be malingering or imitative, while others regarded it as hysterical. In any case, the subject is important. There is no doubt that the past history of the individual influences the character of the symptoms displayed. The physical traumata are also contributory and it is probable that there is somewhere a break in the chain of neurons governing the particular functions involved. It seems that the syndrome is most likely to occur when, to the effects of shock conditions, are added previous long continued anxiety and nervous exhaustion. This implies a certain cerebral instability. It is noteworthy that the mental confusion, inattention, fatigue and hallucinations are the symptoms heretofore ascribed to cortical injuries.

The writer concludes that the wounded are practically immune from shell-shock, presumably because a wound neutralizes the action of the psychic cause of shell-shock, that exposure and hardship do not predispose to shell-shock if troops are well fed.

While it is theoretically possible that physical concussion resulting from shell explosion might cause shell-shock, it is certain that this must be regarded as an extremely rare and unusual cause.

Chemical intoxication by gases generated in shell explosions can not be more than an exceptional cause of shell-shock.

Gradual psychic exhaustion from continued fear is an important predisposing cause of shell-shock, particularly in men of neuropathic predisposition. In such subjects it may suffice to cause shell-shock *per se*.

In the vast majority of cases of shell-shock the exciting cause is some special psychic shock. Horrible sights are the most frequent and potent factor in the production of this shock. Losses and fear of being buried are also important. Sounds are comparatively unimportant.

Consideration of the causes and frequency of relapses favors an original cause of a psychic nature. Any psychic shock or strain may cause a functional neurosis, provided it be of sufficient intensity relative to the nerve resistance of the individual.—R. Sheehan, U. S. naval med. bull. 11: 242–43, April 1917.

Milligan, E. T. C. Method of Treatment of "Shell Shock." Brit. med. j., July 15, 1916, p. 73–74; also in J. of Royal army med. corps 28: 272–73, Feb. 1917

"A well known method of treatment of hysteria has been applied at this casualty clearing station to selected cases of what is now diagnosed as 'shell shock.' The results of this treatment have been so satisfactory that I desire to give some account of the details of the same in this brief note. . . .

"It is not the purpose of the note to classify the many different conditions caused by shell shock, nor to suggest the pathological condition, psychical or physical, underlying them."

The cases treated were those who "could not speak," "could not hear," "could neither speak nor hear," cases of loss of memory, and cases obsessed by the memory picture of recent terrible experiences, their minds being occupied, to the exclusion of all other things, by the bursting of shells in the trench or during the attack.

Other cases which have been treated are those of loss of function, partial or complete, in one or more limbs; of inability to walk and of neuromimetic deformity of limbs.

We have endeavored to select for treatment only cases of genuine hysteria and of conscious fraud. Malingerers, with mimicry so close and acting so consistent that it was difficult to discriminate them from genuine hysteria, respond more easily to the method, though in a different manner.

Care has been taken to exclude all cases suffering from discoverable organic lesions of the special sense organs, the central and peripheral nervous system,

and organic lesions of the above accentuated by hysteria. The underlying organic lesions in these cases must first be treated.

It is well known that during chloroform administration there is a stage before the involuntary struggling stage, when a patient is highly susceptible to suggestion. It is while the patient is in this stage that suitable suggestion and stimulation should be used. The treatment must be conducted in a quiet room, apart from other patients. Chloroform is slowly administered and suggestion carried out by the anaesthetist when the patient has reached the required stage.

In cases of loss of memory, and cases in which the memory of past experiences is blotted out and replaced by the mental picture of recent terrifying incidents, the past life of the soldier can often be recalled by suggesting to him some person or object of his affections, as his wife, his child or his mother. Mention of his home life and country, his regiment and occupation, has proved effective in restoring the chain of past experience.

Mutism is treated by the insistent asking of suitable questions in the suggestible stage, and cutaneous stimulation is found of use.

Loss of hearing responds to the same methods.

Hysterical attitudes of limbs are changed to opposite attitudes and fixed there firmly with bandages; thus extension is changed to extreme flexion.

Loss of function in limbs is overcome by continuing to give passive movement together with suggestion as the patient is regaining full consciousness.

In obstinate cases complete anaesthesia is produced and the patient is immediately allowed to recover from the anaesthetic. As he emerges he is again in an impressionable state and this state has been used for suggestion with success where the first efforts of the operator were not successful.

In all types of cases suggestion should be continued until the patient has fully recovered consciousness. When quite rational the man is assured of his cure, promised a rest, given morphine, and allowed to enjoy a much needed sleep.

The after treatment consists in prolonged rest and change of surroundings, even although the worst symptom of the mischief—for it is a symptom only—has been remedied.

All cases should be treated at the earliest possible moment. Chloroform is better than other general anaesthetics for this purpose because it produces definite stages of anaesthesia which can be readily prolonged as required. Cases which have been cured by abnormal experiences, such as an abdominal operation, or a shipwreck, would probably have been cured earlier by suggestion under chloroform.

Clarke, J. Michell. Some Neuroses of the War. Bristol medico-chirurgical journal 34: 49–72, July 1916

A neurosis, according to Gould, is an abnormal nervous action or an affection of the nerves or nerve-centres of a functional nature. Dr. Michell Clarke excludes all cases which exhibit any one or more of the definite clinical signs which are usually associated with structural change in the central nervous system. He admits, however, that present conceptions of what constitutes functional, as constrasted with organic, lesions may require modification. Several observers have noted that organic lesions of the nervous system may be produced without evidence of external injury. Usually there will be found structural changes in these cases.

It is, however, possible that minute multiple lesions, especially if widespread, may through a massed effect give rise to symptoms or signs not recognizable by present clinical methods of investigation as due to an organic lesion, but rather to those of functional disturbance or neurosis. These shade indefinably into cases with undoubted signs of structural change.

As the neuroses of war are partly due to the same causes as those occurring in civil life, and partly to other special causes, some of them will be familiar while others present unfamiliar or special features. Hysteria, for example, exhibits

the ordinary manifestations, namely, monoplegias, paraplegias, and hemiplegias, with or without sensory disorders and muscular contractures, affections of the special senses, such as deafness or amaurosis, and of special nervous mechanisms such as of speech, and of anorexia or vomiting. Most of them are quickly cured by the accepted methods, and cases of recent origin are more amenable to treatment than those of long standing. Hysterical paralysis in a limb may be caused by a wound which may be superficial or deep, slight or severe. Most commonly the paralysis is distal to the injury or does not extend further centrally than the position of the wound. Anaesthesia is usually present and is of the glove or sleeve, stocking or sock distribution. The upper limit of the anaesthesia is transverse to the long axis of the limb, as a rule is sharply defined, and the boundaries of the loss of the different forms of sensation are coterminous. All forms of sensation may be lost together, but those to light, touch, and pain are more frequently affected than those to heat or cold. Sensation to either heat or cold may be preserved and the others lost, or cold felt as warm. Attention to the distribution and characters of the anaesthesia rarely leaves any doubt as to its true nature. The affected limb is often cold, bluish-red, and sometimes slightly oedematous.

The cause need not be a wound. These troubles may, as in civil practice, occur after any injury. Hysterical contractures of the limbs without paralysis are not so common. Hysterical paralysis and anaesthesia may complicate paralysis due to an organic lesion. Lapse of time aids in clearing up the diagnosis, for the functional disorder tends to pass off. Even in hysterical paralysis of long standing there may be wasting of the muscles; it is of slight degree and affects the muscles of the whole limb. The electrical reactions are retained.

Aphonia may be present; there is a tendency to relapse, and it is difficult to bring about a permanent cure. There may be dumbness with or without deafness from shell-shock. In most cases the cause was the shock of a shell-explosion, with or without burial, sometimes producing loss of consciousness for varying periods, sometimes not, but in either case leaving the patient in a dull, dazed, or stuporous state, from which he emerged to find himself dumb and often deaf as well. In most cases hearing returned before speech. Recovery took place in some quite suddenly; in others gradually, with ability to pronounce a few words in a stuttering manner at first. Patients were aided by means of demonstrating to them the physiological movements of the lips and tongue in speaking. Some of them exhibited the eagerness to write what they could not say, as seen in the classical type of this affection, but others were dull and apathetic. Similarly with those suffering from deafness without obvious lesion the patients did not make the efforts to hear that a deaf person does.

Hysterical vomiting occasionally occurred. It was cured by keeping the patients strictly on milk until vomiting had ceased for some time. Hysterical convulsions occurred in only one case. He had not suffered from epilepsy. There was a history of a slight wound, and a subsequent fall on the head from a height of six feet.

In other cases the hysterical features were accompanied by more or fewer evidences of a state of general nervous shock. These neuroses present symptoms or groups of symptoms not familiar in civil practice before the war. The causes are numerous—anxiety, overstrain, want of sleep, wounds, concussion from high explosives, noise, horrible sights, and fear. The most potent are the concussions caused by high explosives and burial in the débris produced by a bursting shell. The longer the patient was buried the greater the effect. In the majority of these cases of neurosis there is a history of mental or nervous disease in the patient's family. Occasionally the breakdown occurred only after the system had been weakened by some debilitating disease.

The chief symptoms noted are exhaustion or prostration, both bodily and mental, apathy even to the extent of an absence of the desire to recover, pro-

nounced fatigability. There is often wasting or disturbance of nutrition, with or without anorexia. Depression, with loss of self confidence, is present in the early stages. It is often associated with fears of permanent paralysis or ill-health. Tremors of the limbs are common. Patients are extremely sensitive to noises. Cerebration is slow. Memory is defective; in the more severe cases even for remote events. Affections of the special senses are common soon after the accident, but seldom persist long. Definite nystagmus is rare; nystagmoid movements are not infrequent. Insomnia is at first the rule, and sleep is disturbed by terrifying dreams. In some of these cases there is a more defined loss of power, either hemiplegic or paraplegic. As a rule there is at first more or less general loss of power of all the muscles of limbs and trunk. In all cases electrical reactions were normal; the results in the hemiparetic cases were good. Treatment by rest, good feeding, massage, passive movements, and exercises. The leg in all cases recovered before the arm.

Incoordination is present in some cases. The deep reflexes are usually exaggerated. Sphincters unaffected.

Considering the cases as a whole, Dr. Michell Clarke concludes that the pathological changes must be widely distributed through the nervous system. "The disturbance affects the highest cortical levels, the middle levels with the subconscious mechanisms for everyday activities, the motor centres in the cord with their issue in the final common path, and the muscles themselves, and often also the afferent paths and the receptive apparatus for localization and the components of deep sensibility." There is possibly a block in the passage of nervous impulses from one neuron to another, and this may be due to an alteration in the constitution of the terminal ramifications of the axones and the dendrites. The disorder of voluntary movement may be explained by an overaction of the cerebellum, or by the want of counteraction of the cerebellum owing to the impulses from the cerebrum being in abeyance.

Cases of conscious simulation of nervous disorders have been conspicuous by their absence; the influence of fear is not so great nor so lasting as might have been anticipated. In a few cases, however, the fear of returning to the front does retard recovery; where, therefore, there is no prospect of his return to active service the patient should be so informed.—H. J. Norman, J. of ment. sci., Lond., 63: 119–21, Jan. 1917.

Eder, M. D. Psycho-Pathology of the War Neuroses. Lancet, Lond., Aug. 12, 1916, p. 264–68

Cases are described of soldiers suffering from hemianalgesia, symbolic conversion, recurrent mutism, functional amblyopias, fear obsession, and maladaptation. It is the author's view that in most cases the neurosis has arisen as a result of the strain of quite extraordinary conditions. The army is not composed of fighting men but of men from the mill, mine, farm, counting-house and country home. Men brought up to one occupation are suddenly, with scant training, called upon to make new adaptations. In the course of their normal life they would probably be equal to any emergency, "but for some of them—among the very best—the new condition called out to them to strain themselves to the utmost, and this was just a little too much." A recital of results of treatment by psychoanalysis and hypnotism concludes the article.

Myers, Charles S. Contributions to the Study of Shell Shock; (IV) Being an Account of Certain Disorders of Speech, with Special Reference to their Causation and their Relation to Malingering. J. of Royal army med. corps 27: 561–82, Nov. 1916; also in Lancet, Lond., Sept. 9, 1916, p. 461–67

"The principal disturbances of speech which I have observed may be grouped under three heads—aphonia, dysarthria and mutism. This is the order of

frequency in which, from our experience of functional disorders in times of peace, such disturbances of speech might be expected to occur. But in the class of cases with which this war has familiarized us . . . the order is exactly reversed. Dumbness is by far the commonest disorder of speech, occurring in about ten per cent of all cases of shock which have come to my notice; I have met with affections of articulation . . . only in about three per cent; while loss of voice, as the result of shock, is of somewhat rarer occurrence."

Myers first discusses mutism. He divides cases into two groups according to causes—physical, or those in which physical or chemical effects of the shell explosion are experienced; and psychical—those in which some psychic trauma has been experienced. His impression is that the two groups occur with equal frequency.

Predisposing affections may be demonstrated in about one third of the cases of mutism. These may be "nervousness," "fits," stuttering, wounds, or exposure to gas. They occur equally often in the two groups.

Two direct results of shell shock are usually described by mute patients—either "loss of consciousness" or "loss of memory." Loss of consciousness seems more frequent in the group of "physical" cases, and loss of memory in the "psychical." "I have little doubt that the amnesia complained of is almost always due to the onset of a semi-stuporose state, and that most cases of initial loss of consciousness are really the expression of, or, at all events, subsequently pass into, a condition of confusion or stupor."

Myers then describes the onset of mutism in several cases. He considers his records of these not satisfactory, as it is very difficult to obtain accurate information, either from the patients themselves or from medical officers.

The various degrees of mutism are next discussed.

Concomitants of mutism are deafness, stupor, muscular tremor, contracted fields of vision, unsteady or unco-ordinated movements, defective cutaneous sensibility, choreiform, spasmodic or "jumpy" movements, vomiting, quickened and weakened pulse, and exaggerated patellar reflex.

Descriptions of patients' attempts to speak are given.

As to recovery from mutism, Myers says that, in over 75 per cent of the cases he has seen, recovery was rapid. "The majority were cured by simple encouragement, persuasion and suggestion, aided or unaided by hypnosis; some were cured by anaesthesia, a few recovered their speech spontaneously, and a few did so after being harshly reprimanded and isolated from other patients." Twenty-four per cent of the cases were sent back to England where they probably recovered. Several case histories are given.

The question as to whether there are actually two forms of mutism is next discussed, *i. e.*, the one due to actual concussion or gas fumes, the patient having been lifted, buried, knocked down or otherwise directly exposed to the explosion of a shell, and the other from some shocking sight or to terror from bombardment. The author thinks there is no reason whatever for believing that the mutism is due to functional inhibition arising from mental shock in one kind of case, and in the other to minute hemorrhages or gas poisoning. He states his conclusion as follows: "Whether mutism occurs as the *apparent* result of physical, chemical, or of mental causes . . . it is *actually* always the result of mental—*i. e.*, psychophysiological—shock."

The relation of mental stupor is next discussed and cases are described in which these two conditions were present. The causes of dysarthria and aphonia may be explained in the same way as those of mutism.

Tombleson, J. Bennett. Series of Military Cases treated by Hypnotic Suggestion. Lancet, Lond., Oct. 21, 1916, p. 707–09

A paper giving in tabular form an account of sixty cases treated by hypnotic suggestion.

"It will be seen that the most successful cases are those of shock psychasthenia of all kinds, while cases of hyperthyroidism and neurasthenia also show very good results. The cases speak for themselves and confirm me in the opinion that practically all the cases of war neurasthenia and psychasthenia can be cured and sent back to work if treatment by hypnotic suggestion is used in reasonable time. Prejudice against this form of treatment does not, happily, exist in the minds of more than a very small proportion of the patients, and my experience has led me to think that it is only found in those whose keenness to return to the war areas is open to considerable doubt.

"So far as I have been able to trace them, the cure has been permanent in my cases, and if the same standard of criticism be applied to these cases and to similar cases treated in other ways, the utility of hypnotic suggestion will be obvious to any fair-minded critic."

Garton, Wilfred. Shell Shock and Its Treatment by Cerebro-spinal Galvanism. Brit. med. j., Oct. 28, 1916, p. 584-86

Cerebro-spinal galvanism is only of use in the treatment of shell shock of the neurasthenic type, in which most of the following symptoms are found: headache (aggravated by thundery weather), insomnia, mental depression, loss of memory, nervousness, bad dreams, fatigue (without exertion), tremors, wasting, and loss of appetite. A possible explanation of the appearance and persistence of the symptoms is that the violent concussion of the explosion produces a partial paralysis of the nervi nervorum.

Four cases in soldiers are described. A pad, composed of about sixteen layers of lint soaked in a solution of sodium salicylate, is applied to the forehead and connected with the negative pole, while the second pad is firmly bandaged to the lumbar region and connected to the positive pole. The current is increased slowly for about twenty minutes up to 20 milliampères, at which point it is allowed to remain for another twenty minutes.—A. Ninian Bruce, Rev. of neurology and psychiatry 14: 455–56. Oct. 1916.

Savage, Sir George. Mental Disabilities for War Service. J. ment. science, Lond., 62 : 653–57, Oct. 1916

It is at times worth running some risk with mental patients; a complete change in mode of life may turn a hypochondriac into a useful worker; but, in taking risks, one must see on whom the risk falls. Some patients might serve as subordinates, but not in positions of responsibility.

Any young man with direct insane inheritance, and who has had a recent (within a few years) attack requiring detention, should not enlist, though some of these cases may be fit for home or munition work.

Folie de doute may arise at this time in many young men who have suffered from previous nervous or mental disorders.

Cases of shell shock should not return to service under six months, as relapse is frequent.

Service may turn very suspicious men into paranoiacs.

The author has met a form of functional epilepsy in several cases of men who, as the result of psychic strain or shock, lose consciousness for short periods, yet when removed from strain they recover, but relapse if sent back to duty.

Cases of *petit mal*, confirmed somnambulism, men with hallucinations, and most mental defectives should be rejected. The writer passed one defective who had been an incurable liar and pilferer while at school.

A man who had previously been in a railway accident and who had had a horror of railway traveling ever since, was rejected; as also were two men, who, from adolescence, had been unable to micturate except in private, and others have had to leave the army on account of this latter obsession.

No man with a clear history of symptoms of nerve degeneration related to syphilis should be allowed to enter the army, but there are some whose symptoms are recent, and who after treatment may be allowed to enlist.—H. de M. Alexander, Rev. of neurology and psychiatry 15 : 265–66, July 1917.

Lumsden, Thomas. Psychology of Malingering and Functional Neuroses in Peace and War. Lancet, Lond., Nov. 18, 1916, p. 860–62

Appreciating the fact that the diagnosis and subsequent treatment of hysteria, neurasthenia, and malingering is made difficult by the merging of symptoms common to any two or all three of the conditions, the author cites illustrative cases giving the psychology of each in an attempt to clear the atmosphere. Hysteria is more a lack of will to do right than a will to do wrong. The highest centers cease to control the lower subconscious centers, inhibition gives way, and abnormal manifestations appear. "All of my experiences of hysteria lead me irresistibly to the conclusion that the disease is nothing but the vicarious expression of unsatisfied desire, usually of a sexual nature." Civilization and popular morality deny such desires and many other motives their natural outlet, yet the motives are so powerful that some discharge of all the potential energy they represent must take place and hysterical symptoms are the result. In hysteria a cure may only be expected when an outlet is attained through a natural means—marriage—or by some form of physical work to dispel the accumulated energy. The author states that development of neurasthenia in an individual depends upon whether the amount of surplus nerve force stored up is sufficient to weather the storm. If the demand for nerve energy is greater than the income, the break is sure to come in the end, provided the causative factors are persistent enough. Therefore a cure for neurasthenia should be sought by eating sufficient food, digesting it properly, and secondly by diminishing our expenditure of nerve energy by sleeping sufficiently and avoiding worry. The cardinal symptoms as cited are irritability, hypersensitiveness, and introspection. During the course of the European war, mental cases having some of the cardinal characteristics of each of the two mental diseases mentioned and at times definite evidences of malingering have caused a great deal of thought, but of all cases none were so difficult to handle as the condition which proved in many cases to be a combination of hysteria and malingering.—D. G. Sutton, U. S. naval med. bull. 11: 241, April 1917.

Brit. med. j., Dec. 23, 1916, p. 882. Disciplinary Treatment of Shell Shock (Notes from German and Austrian Journals)

F. Kaufmann (Münch. med. Woch, May 30, 1916) is the accredited author of a system of treatment which even some of his fellow countrymen have considered inhuman. He has recently published an account of it which begins with the general statement that the "psychical disturbances produced by the war are essentially the same as those observed in peace, but their frequency is out of all proportion greater." He calculates that, at a low estimate, 100 such cases are discharged annually from every army corps district, and that putting the annual expenditure on each at 500 marks, the total cost of the twenty-five army corps districts in Germany must every year be 1,250,000 marks. At the nerve hospital in Ludwigshafen to which he was attached a large proportion of the patients afforded evidence of the shortcomings of the various schools of suggestive treatment, and the experience in other military hospitals was the same. Kaufmann worked out a system of combined suggestion and painful electrical shock, aiming at a drastic cure in one sitting. The germ of this principle dated from 1903, when, as an assistant to Erb, he observed the beneficial effects of remorseless electrical treatment on a case of hysterical muscular contraction. His system includes the four following principal features:

1. Preliminary suggestion, consisting not only of the stock methods of suggestion, but also the "atmosphere" of a hospital in which successful cures are numerous. It was impressed on the patient that, though the treatment would be painful, the cure would be complete and permanent.

2. Powerful electrical shocks supplemented by vigorous "word suggestion." As a rule, the sinusoidal current of a pantostat was preferred to the faradic current. It was combined with the galvanic current when there were symptoms of hysterical anaesthesia. Some idea of the patients' sensations may be gathered from the term *Ueberrumpelung* (unexpected attack) used in the author's description.

3. Maintenance of an atmosphere of strict military discipline. From the moment the patient was admitted to hospital he was impressed with the spirit of unquestioning, unreasoning obedience.

4. Masterfulness and pertinacity were essential; it might take hours before the desired effect was obtained, but with perseverance and the exertion of the physician's whole personality success was ultimately achieved.

This system, he admits, is unsuited to ambulatory cases, and in slight, early cases might be superfluous. It was contraindicated in patients recently exposed to prolonged mental strain and for acute neurasthenics. The system called for less specialized training in the physician than hypnosis. Again, patients might defy the influence of hypnosis, whereas the *Ueberrumpelung* system left them no choice. After the ordeal the patient should be kept in hospital a few weeks to diminish the chances of relapse. He should not be sent back to active service, and it was even doubtful whether he would be fit for garrison duty.

Professor Otto Schultze (Münch med. Woch, Sept. 19, 1916), who has published a review of the reception the Kaufmann system has been given by the medical profession in Germany, admits that it has been stigmatized as inhuman, although it does not, he thinks, inflict pain very different from that which a woman in labour suffers. At his nerve hospital he found the ordinary methods of treating hysterical motor disturbances unsatisfactory, whereas the adoption of Kaufmann's system led to far better results. Of the patients discharged between January 1, 1915, and July 1, 1916, 40 per cent were unfit for service, 40 per cent fit for service, and 20 per cent were transferred to other hospitals and asylums. Before practising the Kaufmann system he relied mainly on the peaceful atmosphere of his mountain hospital, on good food, rest in bed, kindly treatment, the ignoring of symptoms, and the use of sedatives and hypnotics. In 54 cases thus treated marked improvement or recovery was obtained in 4 only; but out of 15 patients treated on Kaufmann's lines, 13 benefited appreciably. The average stay in hospital of 40 patients suffering from hysterical motor disturbances was 33 weeks, an average which in Professor Schultze's opinion could be greatly reduced by the use of Kaufmann's system. Following Kaufmann's example, Professor Schultze publishes calculations to show how many thousand marks a year could be saved for the state by one physician's applying Kaufmann's system to the nervous wrecks discharged from the army.

Bruce, A. Ninian. The Treatment of Functional Blindness and Functional Loss of Voice. Rev. of neurology and psychiatry 14: 195–98, May 1916

The cure of two cases of functional blindness and functional loss of voice admitted to the Neurological Wards of the Royal Victoria Hospital, Edinburgh, are described. In conclusion the writer says:

"The administration of ether for the cure of functional deafness and functional loss of voice has always in our hands proved satisfactory. It is essential that the loss of consciousness be slight, and that the patient be suddenly roused so as to realize that he is speaking or hearing. The moment he becomes con-

scious of this, an instant change seems to take place, and his joy usually is very visibly shown. Chloroform anaesthesia is not satisfactory, as the recovery from the anaesthetic is too slow, and does not allow the patient to realize himself that he has been speaking or hearing when he previously was dumb or deaf. It is very important that this treatment be not used by those without experience, as failure causes the patient to lose confidence in the method, and once confidence is lost recovery by this means is rendered more difficult."

Great Britain—Board of Control. Third Annual Report, 1916 (Insanity and the War)

The third annual report of the British Board of Control for the year 1916 states that the number of notified insane persons under care in England and Wales was 134,029, or 3159 fewer than the number for the previous year, although in 1915 there was also a decline of 3278 cases. The year 1915 was the first year since reliable statistics have been available, *i. e.*, since 1889, in which there was a decrease in the numbers under care as compared with those of the year preceding. This has now been followed by an almost equal decrease for 1916. During the ten years ended January 1, 1915, the average annual increase was 2251, and had this rate been maintained during the last two years, the total number under care on January 1, 1907, would have been 144,968 instead of the actual number, 134,029. In their previous report the Board called attention to the consistent manner in which yearly increases of the number under care had occurred since 1859, and drew the inference that the diminution for 1915, was a temporary one, bearing some relation to the exceptional conditions, social and economic, arising from the war. If this inference was justifiable then it may equally well be drawn with respect to the continued decrease for 1916. On January 1, 1917, there were nearly 2000 mental and nervous cases under observation in military hospitals, of whom a certain number will be probably eventually certified as insane.—Med. off., Nov. 17, 1917.

London Asylum and Hospital for Mental Diseases, Stone. 51st Annual Report, 1916. Report of Dr. Robert Hunter Steen, Resident Physician and Supt.

Is the war causing an increase in the numbers of the insane? This is a question frequently asked in these days.

War makes its influence felt in three different classes of the population. First, the combatants; secondly, the relatives of the combatants; thirdly, those at home subjected to altered social conditions.

The combatants are exposed to privation, exhaustion, fear of sudden death, horrible sights and experiences, wounds, contusions and shakings from mine and shell explosions, poisoning by foul gases and burning by projected fire. This list might be extended indefinitely, and surely it might be supposed that men would stream from the battle area stark, staring mad. What are the facts? The county and borough asylums record the admission of few soldiers or sailors. Such as have occurred have been cases of general paralysis, or relapses in men previously insane. These cannot be set down to the account of the war. They would have happened in equal numbers had there been peace. Cases have arisen in the military hospitals, but if the insanity is confirmed, these eventually filter through to the asylums and form a part of the above records. Furthermore, it is remarkable that the medical press is unanimously silent with regard to insanity arising from the actual fighting. Numerous cases of shell shock, neurasthenia, and hysteria have been published in the medical journals, and, though these have technically come under the heading of unsoundness of mind, they are by no means insane, and as a rule make satisfactory recoveries.

A greater strain from a mental point of view falls upon the relatives of the combatants. There is the anxiety for the safety of their dear ones and the grief when anxiety is changed to dreadful certainty. There are no indications that the result has been insanity. Doubtless the justice of our cause and the realization that those who have fallen have died to save their country have had a powerful beneficial effect in protecting many from a mental breakdown.

Thirdly, there has been a social upheaval of vast proportion and far-reaching extent. Among the well-to-do there have been financial losses, business worries, and penury replacing luxury. On the other hand those who are termed the working classes have been enjoying a period of unexampled prosperity. It is generally admitted that in bad times insanity decreases and in good times, with abundance of money, insanity increases. The reason for this is supposed to be found in the fact that in times of plenty there is more drunkenness, in times of want, less drunkenness. In this respect the present period is exceptional, for, though the majority of the people have had more money than they know how to use, less alcoholic liquor has been consumed, and the number of convictions for drunkenness has been reduced. Any increase in insanity in the country at once shows itself in an increase of the admissions to the public mental hospitals. So far the evidence I have been able to procure shows a diminution in the admission rate.

To sum up: there are so far no evidences that there has been any increase in insanity during the past two and a half years, and it is highly probable that there has been an appreciable decrease.

Another question frequently put to me is, "How does the war affect the patients?" This can be quickly answered: "Very little." The daily papers circulate through the wards, and though many take a great interest in the events recorded, the total effect is inappreciable. Unfortunately we occupy a position, which, during 1916, was directly in the route most frequented by Zeppelins. Three of these have been seen in flames from our windows, and the spectacle was much enjoyed by many of our patients. Otherwise the noise of dropping bombs, the boom of the guns and the shriek of the shells had very little effect on the hospital population, many of whom slept peacefully throughout the whole series of incidents.

Royal soc. of med., Section of neurology and psychiatry, 9: 1–44, 1916. Special Discussion on Shell Shock without Visible Signs of Injury

Major Mott.—Shell shock is a term applied to a group of varying signs and symptoms indicative of loss of function or disorder of functions of the central nervous system, arising from exposure to forces generated by high explosives. In a large number of cases it is accompanied by burial, and noxious gases may be inhaled while the soldier is lying partially buried. Psychic trauma plays a very considerable part in the production of the functional neuroses and psychoses which result. The subject is discussed under the headings of (a) disorders and loss of consciousness; (b) amnesia; (c) psychic trauma and terrifying dreams; (d) speech defects; and (e) suggestion (Mott. Lettsomian Lectures).

Major W. M'Dougall, who has charge of the Neurological Section at Netley, and thus sees many shell shock cases with symptoms of mental diseases in addition to, or in place of, the functional disabilities of mind and body which are the most frequent effects of shell shock, as well as many cases of mental disorder in early stages, usually diagnosed as dementia praecox, melancholia, paranoia, mania, and stupor, pointed out that in a large proportion the symptoms clear up very rapidly. He suggests that this is because such persons have constitutions naturally stable and elastic, which are liable to break down only under the extremely severe shocks and stresses of modern warfare. The leading mental symptoms, such as delusions and hallucinations, are frequently traceable to particular experiences of a vivid and generally distressing kind.

The following is a somewhat typical history:

A man sustains shell shock and is sent home with some functional disability such as amnesia, mutism, paralysis, or tremor. After some months he returns to the front seemingly cured, and there he very soon develops positive symptoms of mental disease. Or, he passes many months at the front unscathed, until one day a shell explodes near him and merely causes him to be shaky or dazed for a few minutes. From that time he is a changed man; he can no longer come under shell fire without distress; he is always anticipating the shells with dread, and before long he breaks down with hallucinations or delusions, or all the symptoms of mania or of melancholia.

Captain William Brown pointed out that the effect of hypnotism in such cases is not always good, *e. g.*, one patient under this influence found himself back in France again, and found the re-experience so awful that he would not allow it to be repeated. Two cases are quoted to illustrate the fact that mental analysis, or autognosis, proved most helpful, since explaining to a patient the cause of his symptoms, whether hallucinations, delusions, etc., resulted in marked improvement.

Dr. Stansfield considers that the psychic effects accompanying shell shock are such as are ordinarily met with in the practice of psychiatry, and are then usually the outcome of stress producing exhaustion in a subject with poor resistance, owing to inherent or acquired defect. The sustained mental tension necessarily associated with life in the firing line, continued for two or three days without sleep, is sufficient to produce marked psychic disturbance in the most robust—varying with the individual—from dullness, retardation, and lethargy, to severe depression with illusions and hallucinations, particularly of sight and hearing. In the case of the psychopathic it is therefore to be expected that the more profound lesions will be developed. The similarity of the symptoms to those frequently found in dementia praecox—apathy, retardation, amnesia, and aphonia—cause one to wonder if the primary and essential causes of this condition had not already been at work, and if the stress in the trenches and under shell fire had only expedited an attack. Two cases are described, one of amnesia following projected suicide, and one of protracted mutism. Faith should not be placed in hypnosis or autosuggestion. Rest and sleep while in the field should be attended to.

Captain Wilfred Harris considers that prolonged mental strain and hard work may break down the nervous stability of even the hardiest individual. Broken sleep, irritability to noise, forgetfulness of engagements, and inability to concentrate attention are prominent features of shell shock. Recovery is apt to be slow. Relapse may follow a vivid dream.

Dr. Collier considers that the conscious realisation of the explosion and of its results, the severe sensory stimulation, and the remembrance of these, are the essential factors in the production of the train of functional symptoms under consideration, and that cerebral concussion stands in an antagonistic position to the psychical trauma. For if severe concussion produces immediate unconsciousness at the moment of the explosion, there can be no psychical trauma, and there is no remembrance of the event. Immediate loss of consciousness, with symptoms of cerebral concussion only, does not develop the functional symptoms.

Psychopathic and neuropathic antecedents are not of importance as determinants of functional manifestations following shell shock. What seems more important are the proximity of the explosion and the violence of the sensory effect, provided consciousness be retained. Many cases of epilepsy result from shell shock in which no previous taint is present. The low blood pressure in cases of shell shock is remarkable. In only a few is a high tension noted, and these seem to be longer lasting and more resistant to treatment. Functional blindness is rare. Light etherisation in aphonia seems powerless to remove the resistance in the more severe cases, and has the disadvantage that it may produce resentful emotions and loss of confidence on the patient's part if not successful.

Dr. Dundas Grant deprecates the employment of violent measures in mutism during the period of exhaustion. He regards these patients as having forgotten how to talk. The first thing to do is to place the back of the patient's hand under the teacher's larynx, so that he may feel the vibrations produced by the utterance of voice; the hand is then transferred to the patient's own larynx. He is encouraged to produce the same feelings, and ultimately the same sort of sound, in the larynx. From this he is gradually led to alter the shape of the mouth cavities for the production of vowels, and later of consonants. In some cases of concussion mutism the voice is restored at one sitting, in others it is gradual.

Stammering may be helped by getting the patient to twirl a button, or make some other muscular movement when he is speaking, or, best of all, to expand the lower part of his chest.

Dr. Fearnsides gives an analysis of 70 consecutive cases arriving directly from France with "special" tickets. In 27 of these the actual shell shock was preceded by a period of nervous instability, 9 were syphilitic in origin, and in 25 the symptoms came on suddenly after a period of good health.—A Ninian Bruce, Rev. of neurology and psychiatry 14: 213–15, May 1916.

Smith, R. Percy. Mental Disorders in Civilians Arising in Connection with the War. Royal soc. med., Section of psychiatry. Proceedings 10 : 1–20, 1916

The emotional excitement incidental to the onset of the war, the effect of anxiety regarding relatives in the services, financial disabilities, excessive war work, unaccustomed occupations, the possession of a foreign or German name, coast bombardment, airship and aeroplane raids, the fear of submarine attacks during a voyage, have all, in the author's experience, induced mental disorders in civilians; but in the great majority of such cases heredity, a previous attack, or some predisposing instability was present. On the other hand, in all probability in many cases tendencies which might have led to the development of neuroses or psychoneuroses have been "sublimated" by useful work, and the final effect may be a strengthening to the mental constitution of the nation.—H. de M. Alexander, Rev. of neurology and psychiatry 15 : 266, July 1917.

McDowall, Colin. Functional Gastric Disturbance in the Soldier. J. ment. science, Lond., 63 : 76–88, Jan. 1917

The article consists for the most part of detailed case histories of functional gastric troubles in neurasthenic soldiers of the British forces.

The author concludes as follows:

"The great practical point is that vomiting is the result of emotional stress, and that the method of treatment to be adopted should be the removal or control of the offending emotional tone. This can be done by understanding your patient, giving him true insight into the production of his symptoms, removing any worrying element, and gradually restoring to the individual that self-confidence which has been lost. Tactful interrogation, perseverance, sympathy, and the common-sense application of accumulated facts are all embraced in the term therapy. . . . Each case must be dealt with individually and on its own merits."

Wilson, J. G. Effects of High Explosives on Ear. Brit. med. j., March 17, 1917

In considering deafness due to high explosives, Wilson says, one should not only avoid the term "shock," but also so far as possible the terms "hysteria" and "neurasthenia." The cases that are admitted to the hospital suffering from "nerve deafness due to shell concussion" can be divided into three groups: 1. Those with nerve deafness. 2. Those who have had nerve deafness of a varying degree and who have still the fixed idea that they cannot hear. 3. Malingerers. It is with the first group that this paper is concerned. The cases of nerve

deafness which have come under Wilson's observation are divided as follows: 1. Cases of nerve deafness associated with damage to the conducting mechanism. 2. Cases of nerve deafness without any visible or demonstrable lesion in the conducting mechanism when they came under observation. 3. Cases of nerve deafness in which there has been destruction of the cochlea and of the semicircular canals or their nerves. In each of the first two groups the loss may be partial or total; the third always causes total loss.

The symptoms associated with loss of hearing from high explosives fall within that group of nerve diseases called traumatic neuroses. In many cases there is a recognizable physical trauma in the head or elsewhere received during a period of mental excitement. The symptoms are varied and complex. There are present, for instance, exaggeration of tendon reflexes, tremors, vasomotor disturbance, sweatings, lethargy, sleeplessness, and headaches. There is unsteady equilibrium, with vertigo. There is a concentric narrowing of the field of vision. In many cases fields of anesthesia were present. In two cases of total deafness there was complete anesthesia and loss of thermal sense. In one, with total loss in one ear and great diminution in the other, there was anesthesia on one-half of the body and hyperesthesia on the other. Speaking generally, there are here included some symptoms which are frequently grouped under the term "hysteria"; others under the term "neurasthenia."

Over eighty cases of nerve deafness due to high explosives were examined and treated. Prognosis is good, as a rule, especially in cases in which there is no trauma demonstrable in the peripheral organ, and a normal caloric reaction. The most noteworthy exception met with so far is damage to the seventh nerve. In these cases hearing returns but slowly and, so far as observed, not perfectly, even with a normal drum membrane; little, if any, signs of middle-ear inflammation, and a caloric reaction were present. As the deafness diminishes there may persist for a long time an inability to grasp intelligently what is said or to retain the memory of it. Thus a word may have to be repeated two or three times before the patient gets it; or, if he be asked to repeat two or three numbers given consecutively, he will repeat the last one; he knows that there were others, but did not get them.—J. A. M. A. 68: 1291, April 28, 1917.

Abrahams, Adolphe. Soldier's heart. Lancet, Lond., March 24, 1917, p. 442–45

Adolphe Abrahams considers that the term "soldier's heart" should be restricted to patients who are suffering from cardiac affections, or at least to cardiac symptoms due in some way to military service, and in this sense the condition would be an occupation disease. But whereas there exists a group of cases which in his opinion corresponds to such a restriction, even though the determining cause is still a matter for contention, the term is applied indiscriminately to a large variety of symptoms which are evident in men who happen to be temporarily khaki clad, and most of which have nothing whatever to do with the heart, nor, for that matter, with military service.

Abrahams mentions some of the conditions that have been considered erroneously under soldier's heart. He gives first, "strained heart," or "athlete's heart," in modern form, due supposedly to heavy marches and carrying service kits. One school presupposes here a condition of latent unsuspected cardiac disease which only manifests itself in consequence of the strain demanded in military life. Other authorities consider the condition due to a toxemia, microbic or otherwise. Still others attribute it to hyperthyroidism, though a few believe the secretion to be normal in quantity but of pathological quality. The soldier's heart, to this school, is simply larval Graves' disease. Excessive cigarette smoking is also blamed. A newer cause has been found supposedly in the deficiency of buffersalts in the blood, and, according to Abrahams, such an explanation is not without its inconvenience in view of the difficulty in technique in estimating these salts, more especially since the majority of physicians are

vague as to what a buffersalt is, what it does, and why its absence should produce symptoms of cardiac disease.

Another group regard soldier's heart as of psychic origin, and see no necessity to suppose the existence of any sign of heart disease. They employ a non-organic basis, such as sudden change of life, for the patient, and the symptom of precordial pain is generally indigestion due to bad teeth.

Abrahams suggests that while every one of these explanations may be right for the conditions found, the mistake has been made of laying too much emphasis upon the particular condition described, to the exclusion of absolutely all else, and unintentionally an impression has been given that the examiners were dealing with the whole of the cases comprised under "soldier's heart." The large majority of cases thus labeled, and condemned as unfit for active duty, have, according to Abrahams, a perfectly normal myocardium, and suffer from symptoms which have no organic basis. He classifies the cases sent up for examination for heart symptoms as follows: (1) functional cases, due to exertion and excessive fatigue; (2) cases with symptoms due to excessive smoking, or the use of drugs, and disappearing under appropriate treatment; (3) organic heart disease of various types, including Graves' disease; and (4) genuine soldier's heart.

After outlining the symptoms of the above three conditions, Abrahams premises the patient suffering from soldier's heart as a man who really has been a soldier and exposed to the vicissitudes of warfare. Is the influence of warfare, physical strain, toxin, or psychic trauma? He has already dealt with physical strain. The patient presents symptoms generally of dyspnea, always of fatigue on slight exertion, lassitude, persistent tachycardia without cardiac enlargement, and perhaps a variable number of neurotic manifestations. There is invariably a history of psychic trauma—it may be one acute occasion or a long-continued bombardment by greater or smaller shocks. It is unsatisfactory to invoke toxemia, as it usually exists whenever there is a morbid state and contributes to it, whether it is mental or physical; the previous history may show the same from some infection. He dismisses the ductless gland theory, since he has never seen any benefit from treatment based on this theory.

There is left, then, the basis of purely nervous origin for soldier's heart. In this Abrahams finds the cause of the condition. In the first place, a very large proportion of sufferers are of a distinct type of mentality, men with shallow reservoirs of nervous energy—the neurasthenic soil, in fact. The symptoms correspond to a failure in vasomotor and cardio-inhibitory control. The obstinate resistance to any form of treatment supports the idea of a nervous origin, a shock to the nerve centers which persists no one can say how long. A striking feature is that men who sustain a definite somatic injury do not manifest "soldier's heart," or any other presumably nervous symptoms. In these cases of injury the immunity of the nerve centers to shock may be explained by the dissipation of the shock elsewhere. It may be further explained by the mere circumstance of an injury having occurred satisfying the subconscious with the realization of something definite, and not presenting to it only the sensation of some vague disturbance the uncertainty of which prejudices recovery.

Reviewing the persistence of symptoms, the thought comes that only termination of hostilities could cure these sufferers, in whom, with the best of intentions, there must continue to run a subconscious current of defense-neurosis telling them that recovery means a return to the hell from which they have escaped. Treatment of such cases appears to have the sole effect of perpetuating their neurosis by fixation of the attention, although whether immediate vigorous treatment of them as of purely neurotic origin would yield better results there is no opportunity of observing, since the cases seen, so to speak, are chronics who are left *in statu quo* after a great deal of practically every form of therapy that has been recommended. As seen, such cases are of no further use for general service, but, given sedentary work, they continue on a low level of activity with the tachycardia and other symptoms unrelieved, yet, so far as can be observed,

executing very light duties with comparative cheerfulness, and apparently without any ill effects.—Med. rec. 91: 773–74, May 5, 1917.

Hurst, Arthur F. Classification of War Neuroses. Guy's hosp. gaz., Lond., 31: 109, March 24, 1917

A. PREDISPOSING CAUSES

(1) The congenitally nervous or "martial misfits" (2) A previous attack of neurasthenia	(3) A previous mental breakdown (4) Chronic alcoholism	(5) Concussion even years before

B. EXCITING CAUSES	Resulting neuroses	Treatment
(1) Exhaustion due to: (a) Mental and physical strain (b) Toxaemia of acute and chronic infections (c) Insufficient food (d) Excessive heat (e) Pain and toxaemia of wounds	I. *Neurasthenia* (nervous, suprarenal and occasionally thyroid exhaustion) II. Soldier's heart	Rest, followed by graduated exercise; sometimes adrenalin or thyroid
(2) Emotion due to: (a) A single horrible incident (b) Prolonged and repeated horror, fear, etc. (c) Constant pain from a wound	III. *Psychasthenia* (amnesia; obsessions; phobias; tics; nightmares with secondary headache, insomnia and tremor IV. *Hysteria* (convulsions, tremors, paraplegia) V. *Hyperthyroidism, hyperadrenalism* with harmonic form of "Soldier's heart." VI. *Exaggerated Defensive Reflexes* (especially "auditory jump" and "visual flinch" reflexes)	Suggestion with or without hypnosis Persuasion, re-education, rarely hypnotic suggestion Rest, opium, belladonna Quiet and isolation
(3) Explosion of high power shells (a) Concussion i. Aerial ii. Contact (burial, sand bags, etc.) (b) CO poisoning	VII. *Shell-shock:* an organic basis (concussion symptoms) often with superadded hysteria (paralysis, deafness, mutism, blindness, etc.)	Rest for organic basis; persuasion and re-education, rarely hypnotic suggestion, for hysteria

C. CONDITIONS PREDISPOSING TO THE DEVELOPMENT OF SPECIAL SYMPTOMS	Resulting neuroses	Treatment
(1) Family or personal history of Epilepsy	VIII. *Epilepsy*	Bromide
(2) Mental deficiency (3) Mental disease	IX. *Insanity*	
(4) Syphilis	X. *Cerebral syphilis:* Tabes: general paresis	Hg.: K. I.: Salvarsan
(5) Ocular defects, already present or produced simultaneously	*Asthenopia* and headaches *Hysterical blindness*	Glasses Hypnotic suggestion
(6) Aural defects, already present or produced simultaneously	*Hysterical* deafness; tinnitus	Hypnotic suggestion
(7) Previous or simultaneous injury of a limb	*Hysterical* paralysis, spasm or tremor of the limb	Persuasion and re-education
(8) Previous speech defect (stammering, aphonia, mutism)	*Hysterical* mutism, aphonia, stammering	
(9) Excessive smoking	*Tremor;* "Soldier's heart"	
(10) Passed emotional disturbances or illnesses, which may since have been forgotten; these may influence III, IV, VI, and VIII		

Hotchkis, R. D. Renfrew District Asylum as a War Hospital* for Mental Invalids; Some Contrasts in Administration; with an Analysis of Cases Admitted During the First Year. J. ment. science, Lond., 63: 238–43, April 1917

Following is the first part of Dr. Hotchkis's paper; the second part deals with a clinical analysis of the cases treated:

"The first intimation, in the form of a request to the District Board made through the General Board of Control for Scotland, that Dykebar was wanted as a war hospital for mental diseases, was given in November, 1915, and after this request had been unanimously agreed to by the District Board, certain financial questions had to be settled, the details of which I need not enter into. . . .

"At the same time there had to be carried through the transfer of the parochial patients to other institutions, which involved a considerable amount of work, both to the General Board of Control and to the staff here, and also, I am afraid, to some of my audience to whom they had to be sent. The more serious cases were transferred to the nearest asylums, namely, Hawkhead and Riccartsbar, and the new cases from the county are being sent either to Smithson or Riccartsbar, which was the arrangement before Dykebar was built. By the end of the first week in January, 1916, all the patients had been cleared out, with the exception of twenty-five men who were retained for farm and other outside work, and who are accommodated in the reception block, which is a small building quite separate from the others. The two classes of patients are thus kept separate, though as a matter of fact in outside work the two often fraternize, but the soldier always assumes command. The transfer of the patients was carried out without a hitch, due to the excellent work of the Transport Section of the Red Cross Society, and to the providing by the military authorities of an ambulance train when parties of about one hundred had to be transferred. . . .

"I will now describe shortly the increase and organization of the staff in the different departments to meet the new conditions.

"*Kitchen.* Instead of one cook and one kitchenmaid, a superintendent and assistant superintendent and six kitchenmaids were engaged. We were fortunate in securing as superintendent a lady with first-class qualifications and previous experience in a military hospital. As the patients are encouraged to work in every department, there are, as a rule, about six working regularly in the kitchen. Owing to the fact that the military scale of diet is more generous than under ordinary circumstances, some additions had to be made to the cooking apparatus of the kitchen.

"*Laundry.* The laundry had just been enlarged, so no difficulty has been experienced. Owing to the extra work, seven extra laundrymaids were engaged to replace the female patients, and in addition there are as a rule about nine or ten soldier patients who work there.

"*Store.* There is not much change, except that certain articles of food, as meat, bread, and flour are sent from the Army Stores Department at Greenock, the other provisions being obtained under contract as formerly. The ordinary books required by the General Board of Control have still to be kept, but the method of ordering stores, sending back empties, etc., has to be according to army regulations. The accounts are paid by the Finance Committee of the District Board, who, to meet expenditure, have to send a requisition to the Command Paymaster each month for what is necessary. The accounts have to be approved of by the General Board of Control.

"*Pack store.* The pack store is a most important part of a military hospital. On admission the clothes of the patients are all cleaned if necessary, mended, and carefully put away, any deficiencies being made up from the pack store, as

*Dykebar War Hospital, Paisley.

everything that a soldier requires in the way of clothing has to be kept there—for example, the hospital clothing, service clothing, and civilian clothing for discharged soldiers—and in the inventory a complete history of every article has to be kept with scrupulous exactness. Rigid rules and forms hedge in all that has to do with army clothing, and the disappearance in transit or otherwise of any garment or accessory is the prelude to an endless correspondence. In this hospital the gallery of the ordinary store is used as the pack store, and in addition three or four hundred racks were put up in the tailor's shop for the patients' clothing on admission.

"*Office.* This corresponds to a regimental orderly room. Under former conditions one clerkess did the work comfortably; now it takes the full time of four, and they sometimes have to work late and on Sundays. Army forms and methods are very complicated, and they give one an idea of the vastness of the organization controlled by the War Office. When I first had to study them, I felt like going back to school without the elasticity of youth.

"*Nursing staff.* The matron, as has always been the case in this institution, is over the whole of the nursing staff, both orderlies and nurses. The kitchen and laundry departments are also under her. There was no head attendant to be made sergeant-major, and though it was prophesied that a sergeant-major for purposes of discipline amongst the orderlies was a necessity, the present system works admirably. There are three assistant matrons, two on day and one on night duty.

"The orderlies are composed of three classes according to their engagement:

"(1) The former attendants, eleven in number, all of whom have been enlisted in the R. A. M. C., the charge attendants having been made sergeants and the second charges corporals.

"(2) Orderlies, twelve in number, engaged by me on behalf of the District Board for the duration of the war and paid by that body. They also are enlisted into the R. A. M. C., and are mostly men over military age or unfit for active service, and among them are some experienced asylum attendants. They do not contribute to the Superannuation Act, and they could be added to at any time if suitable candidates present themselves.

"(3) Regular R. A. M. C. men, two sergeants, two corporals, two lance-corporals, and twenty-one privates, who were sent from various units, and who could be recalled at any moment. They have the ordinary army pay and allowances and also get 6d. per day extra as mental attendants if found satisfactory.

"As regards female nurses, of whom there are twenty-one, the difficulty at first was to know how many wards could be staffed entirely by them. The present arrangement is that the East hospital, which is divided into two adjoining wards with a total of forty-nine beds, has been put in charge of nurses both by night and day, though an orderly is always there during the day for bathing and shaving the patients, etc. There are a certain number of cases requiring treatment in bed in this ward, and the cases include most varieties of mental disease, many of them being in a convalescent stage, but still requiring a certain amount of observation.

"One of the villas consisting of seventy-five beds is also under nurses, and the cases there are patients not yet ready to be discharged, but who can be allowed a certain amount of liberty. I am quite satisfied with the work done by the nurses in these two buildings.

"At the beginning, in addition to the two mentioned, another villa was staffed by nurses, but the patients sent there were more difficult to manage and it did not work so well. Ultimately the charge nurse married one of the patients on his discharge, and as discipline was somewhat relaxed the villa was placed under orderlies. There are no nurses in the north wing of the west hospital as most of the very acute cases are there, but there are two nurses in the south wing. One of the villas is also without nurses, but all the others have either one or two,

and their duties are chiefly connected with the kitchen and dining-hall, and they take entire charge of the food. In doing this they have the assistance of several patients for whom they are responsible. The night staff consists of one assistant matron who is responsible for every part of the institution, three nurses, one charge orderly with the rank of sergeant, and ten orderlies.

"*Medical staff*. My duties as superintendent remain as before except that the clerical work is far more than in a civil mental hospital.

"There was some difficulty at first in obtaining a medical staff, but, thanks to the exertions of Dr. John Macpherson, one of the Commissioners, the services were secured of Dr., now Capt. Buchanan, the Medical Superintendent of Kirklands Asylum. There are also on the staff Capt. A. Ninian Bruce, Lecturer on Neurology at the University of Edinburgh, and Dr. Dawson, Medical Superintendent of Ponoka Asylum, Alberta, Canada. The Pathological Department is in charge of Capt. Bannerman."

Hotchkis, R. D. Renfrew District Asylum as a War Hospital for Mental Invalids; Some Contrasts in Administration; with an Analysis of Cases Admitted During the First Year. J. ment. science, Lond., 63:243-49, April 1917

The first part of Dr. Hotchkis's paper deals with administrative matters and is abstracted previously. The second part presents a clinical analysis of the 942 cases admitted from January 24, 1916 to January 31, 1917. Of these 111 were sent from the expeditionary force. Dr. Hotchkis confines his observations to the expeditionary cases, among which were five German prisoners of war.

The following were the diagnoses made:

		No.	*Per cent*
Manic-depressive		188	21
Manic type	31		
Depressive type	133		
Stupor	7		
Mixed type	17		
Alcoholic		152	18
Mental deficiency		151	18
Confusional		134	16
Dementia praecox		118	14
Catatonic form	11		
Paranoid form	14		
Simple form	93		
Paranoia		44	5
General paralysis		22	2
Other organic brain conditions		5	Less than 1
Epilepsy		7	" " 1
Secondary dementia		7	" " 1
Not insane		4	" " 1

The author makes exceedingly interesting comments on the cases of each type. Most of the alcoholics were delirium tremens, contracted while home from the front on leave. Some others were old alcoholics, who broke down as soon as their supply was cut down in the army. Others did well until exposed to shell fire. Of 45 soldiers admitted who had cut their throats, 18 were alcoholics. The defectives were divided into classes, the "vicious" and the non-delinquents. Of the 37 "vicious" nearly all were habitual criminals and were usually sent from other hospitals, where they had been giving trouble. Of the rest nearly all had been able to earn a living in civil life in some simple calling. In several cases

they were regarded as more dangerous to their comrades than to the foe, on account of not understanding the mechanism of their rifles. Some of them were not permitted, on this account, to load their rifles in the trenches. One, while on sentry duty, was asked by an officer what he would do if the enemy appeared. He precipitated his military downfall by answering, "Pass, friend; all is well." Many of the defectives had confused episodes, which soon cleared up.

Many of the paranoiacs had been insane before enlistment. They were found among the older soldiers (35 to 40). The writer does not feel that the data on the 22 cases of general paralysis justify an opinion on the part played by military service in bringing on the disease in the syphilitic.

With one exception (a traumatic case), all the epileptics had had the disease before enlistment. The author regrets that the inelastic classification of the army did not permit him to classify the mentally unstable. He uses the term extensively, however, when cases are discharged from the army.

The following table shows the disposition of 500 cases discharged:

	Total	*No.*	*Per cent*
Total cases discharged	500		
Sent to asylums		139	27
Returned to duty		155	31
Discharged as recovered		40	8
Sent to their friends		111	22
Died		11	2
Escaped		2	

Smyly, Cecil P. Shell-Shock? Dub. j. med. science 143: 247–57, April 1917

After commenting upon the question of the appropriateness of the terms "shell-shock" or "shock-shell," Dr. Smyly says: "In the present state of our knowledge, it is hardly possible to describe this new incarnation of familiar diseases under the usual headings. While definition is difficult, etiology is easy, and may be summed up in two words: the war. The condition occurs not only at and behind the various fronts, but also at home. The mode of onset is sometimes rapid, not to say instantaneous, at other times gradual and insidious; there may or may not be a history of injury.

"The symptoms vary from a slight tremor, through aphonia to delirium and insanity, and may appear in almost any combinations. Diagnosis in some cases presents no difficulties, while in others it allows of very different opinions. The prognosis is, I believe, good in all, or nearly all, cases, though in some the happy issue may be delayed till the millennium of 'after the war.'

"As regards treatment, no hard and fast rules can be laid down owing to the extreme difficulty in sorting out which cases are physical and which are psychical, to say nothing of those that are fraudulent. In dealing with the purely psychical cases, it is obvious that the method of treatment should be directed to reforming the patient's normal state of mind, and must be of a psychical nature. So-called hypnotism can be employed only in exceptional cases, whereas suggestion, using the term in its widest sense, can generally be administered in a drowsy condition or in the waking state. When this method is employed, it is advisable to exclude, so far as may be possible, all sources of counter-suggestion. . . . The actual way in which the suggestions are given is of the utmost importance on account of differences in temperament, and, in each case, the most suitable method has to be chosen with considerable tact and a large amount of intuition, but even the exercise of the greatest care may not prevent some extraneous circumstance from having a most pernicious effect."

Twenty-two case histories, with reports on methods of treatment, follow. The cases are most interesting and varied in character, presenting all types of

shell shock from simple insomnia to various forms of paralysis and loss of sight, speech and hearing.

MacMahon, Cortlandt. Shell Shock Stammering and Other Affections of Voice and Speech. Practitioner, Lond., 98 : 427–35, May 1917

The article is divided into three parts under the subjects *shell shock stammering, aphasia,* and *functional aphonia.*

The author says: "The stammer which has its origin in shell shock is, in my experience, one in which there is chiefly difficulty in the production of the voiced consonants and vowel sounds, and which does not present the general difficulties met with in the ordinary stammer. It may be described as a more or less severe inhibition of speech, and is accompanied in some cases with amnesia, or the forgetting of words which obviously are required, but for which other words are substituted. The condition is very suggestive of the type of aphasia known as aphemia. . . . The prognosis of such cases is generally good, and, in mild cases, it is best to leave the trouble quite alone, for, as the patient's general condition improves, the stammer disappears. In more severe cases, instruction should be given, and, as a preliminary, the patient should be taught to fill the lungs in a proper manner. This is brought about by the acquirement of an inferior lateral costal expansion during inspiration, whilst during expiration the abdominal muscles must contract slowly and strongly, so that the diaphragm is pressed upwards by the abdominal viscera, the lower ribs drawn downwards and inwards, and the air expelled from the lungs definitely and adequately. This latter action I describe as the motive power of the voice, and I train the patient to rely upon it very much indeed as he speaks.

"The steady breathing produces a sense of repose in the stammerer, and the emotions of nervousness and anxiety yield very readily to it. One impresses upon the stammerer that any raising of the upper chest, or tensing of the muscles of the throat, tongue or jaws, is fatal to the acquirement of normal speech. . . ."

The author goes on to describe in detail the teaching of the six main vowel sounds and their resonator positions, the six combinations of these sounds, and a group of words in which neither the main vowel sounds nor their compounds appear. He divides the consonants into two classes—the "voiced" and the "breathed," and gives instruction for re-education in uttering these.

Stammerers whose affliction has existed since childhood and has been intensified by shell shock or wounds, and others whose affection has been overcome, but has been resuscitated by war experiences, are much more difficult to treat, and the instruction must necessarily be more definite and requires a greater time. "Several alliterative examples must be given for each of the consonants, which must be regularly practised, and the vowel sounds taught by examples of them being given in many ways, so that in every word they are instantly recognized. There must, however, be no mental strain in learning what is necessary; it must be taken in slowly and gradually absorbed.

"In stammerers of a severe type, the throat muscles are hard and tensed, and the tongue so drawn up at the back, that it is almost in contact with the soft palate; all this must be overcome before much improvement can be obtained. Stammerers are often given very bad advice; the worst is being told that speech will be made quite easy by taking a long deep breath, without explaining what correct breathing is. The long, deep breath almost invariably results in the stammerer's raising the upper chest, overloading the upper part of the lungs, and tensing the throat muscles; normal speech is thereby made an impossibility. If these efforts are persisted in, the stammerer is made very much worse.

"Stammerers vary much in the type of their stammer, their demeanor, and sensitiveness. Generally speaking, the laryngeal type of stammerer, *i. e.*, the

stammerer who has difficulty in producing the vowel sounds and voiced consonants, is more easily cured than the stammerer who rapidly repeats, introducing consonants, and whose type of stammering is known as stuttering. In practically all types, the treatment is both mental and physical, but, naturally, the need of either form in particular is more strongly indicated in some stammerers than in others. In some cases, the decided lack of control of the emotions is the exciting cause of the stammer; in others, the emotions are well under control, and the stammer is almost entirely of a physical nature."

Five cases are next described.

The writer then takes up *aphasia*. He says that nearly all the cases treated by him exhibited a type of motor aphasia called aphemia, in which the faculties of hearing, writing and reading were normal, but in which speech was either practically non-existent or produced with much difficulty. Memory was, as a rule, rather defective, but not seriously so. These patients must be taught by the same method of breathing as in stammering, and, as can be imagined, the correct breathing, with its calming effect on the emotions, has a great deal to do with recovery. The patient suffering from aphemia has a misconceived idea as to how his voice is produced, and, consciously or subconsciously, tries to get the voice by physical effort. When a sound is attempted, one notices his muscles are tensed everywhere, and that, after he has with difficulty produced a simple sound or word, he is quite exhausted with the effort.

"The treatment, therefore, is to get as complete muscular and mental relaxation as possible, to explain that voice is a matter of resonance in the head and chest, and only originates in the vocal cords, and then to start on the simple vowel sounds, which the patient generally produces in a few minutes.

"Then simple words . . . are learnt. There comes a time, in some cases, when the patient has so far recovered from the original cause of his trouble that normal speech is really possible, if only relaxation of effort can occur. This accounts for the dramatic return of speech of which one occasionally hears. The undue effort made sets up a hyperaemia of the brain, which is just sufficient to prevent speech being normal, and when the patient unconsciously relaxes this effort, he immediately speaks quite normally. This kind of recovery is not the normal course that this type of aphasia follows, and the recovery is generally steady and rather slow."

Several cases illustrating this type of speech impairment are described.

"*Functional aphonia* is treated in various ways, chiefly by electricity. I always inform the patient what the condition of the cords is, and tell him how I want him to breathe as I attempt to get the voice back. I explain that, in the aphonic condition, the air from the lungs is being forced through a tensed throat and then articulated, whereas muscular relaxation and vibrations must be brought about instead. I then press down the back of the tongue with the two middle fingers of my right hand, using a good deal of pressure, and hold the tongue in that position for one or two minutes. I repeat this, and at the same time place my left hand on the throat and gently squeeze on the back of the thyroid cartilage asking the patient then to try to make the sound of AH on as deep a note as possible. If there are no vibrations, I tell him to cough, and, as he coughs, to finish the cough on the AH sound. The voice often returns immediately, but if it does not, I tell the patient to use a tongue spatula himself and to continue it assiduously until he can get vibrations, and until I see him again. The cure of functional aphonia is very much easier to accomplish in a long standing case than in a recent case, and I would very much prefer to treat a case of six months' standing than one of six weeks. My strong belief is that, for soldiers suffering from functional aphonia due to shock, the best method of treatment is at first complete rest in hospital, so that the general condition is improved; then for them to go to a convalescent home and to attend as out-patients at a hospital where the necessary treatment can be given."

A few cases typical of functional aphonia are cited, followed by a description, giving treatment of cases of a severe injury to the larynx and vocal cords, of a gunshot wound of the hard and soft palates, and of head injury resulting in impairment of speech.

Adrian, E. D., and Yealland, L. R. Treatment of Some Common War Neuroses. Lancet, Lond., June 9, 1917, p. 867–72

The form of neurosis discussed in the article is that called by Babinski "pithiatism," a neurosis in which objective signs appear simulating those due to organic disease.

"The object of this paper is to describe a method which we have found to be extremely useful in dealing with this type of war neurosis. It has been applied in upwards of 250 cases which have included all the most common types of hysterical disorder; we have records of 82 cases of mutism, 34 of deafness, 18 of aphonia, 37 of monoplegia of the arm or leg, 46 of paraplegia, 16 of hemiplegia, and 18 of disordered gaits not associated with organic change. The majority of cases have been of several months' standing, but in spite of this the treatment has been almost immediately successful in at least 95 per cent. of the cases in which it has been applied." Emphasis is laid upon the necessity of accurate diagnosis.

"The different forms of treatment in vogue can best be understood by considering the mental characteristics of patients suffering from this form of neurosis. Though it may seem unjustified to make a psychiatric grouping of these cases, yet there are certain mental abnormalities which are present to some extent in nearly every patient. Indeed anyone visiting hospital wards where functional and organic cases are treated together cannot fail to be struck by the great difference in the mental outlook of the two classes. The chief phenomena underlying the hysterical type of mind are weakness of the will and of the intellect, hypersuggestibility and negativism. The majority of the patients are below the average normal intelligence as judged by the Binet-Simon scale, and others who are more highly equipped prove to have an unstable history either personally or in the family. Their hypersuggestibility is shown by the mode of production of their symptoms and by the ease with which the physician can suggest such conditions as anaesthesia, contraction of the visual fields, etc. At the same time there is a pronounced element of negativism which may amount to a mere inertia or to an active, but not necessarily a conscious, resistance to the idea of recovery. The unconscious resistance is often well marked and must be broken down before any results can be obtained. A combination of hypersuggestibility and negativism may seem to imply a contradiction, but the two are not difficult to reconcile. The patient has a fixed idea that he is dumb or paralysed and he resists all criticism of this idea, but outside this he responds to external suggestions much more readily than a normal person. Indeed, the fixed idea is developed as the result of auto-suggestions acting on a mind enfeebled by fear and emotional tension and this auto-suggestion becomes so strong that the patient resists all attempts to undermine his fixed belief. These facts are important because they show that we must take into account two distinct conditions in considering treatment and prognosis. These are (a) the fixed idea which is giving rise to the functional symptom . . . and (b) the state of mind which has allowed this fixed idea to develop. The fixed idea can be treated successfully by suggestion methods and the patient can be restored to apparent health, but there is no reason to suppose that his mental instability will vanish. . . . There is, however, one method of treatment which lays claim to the power of curing not only the hysterical symptoms but also the hysterical mentality. This is the method of psychoanalysis."

The writer then discusses the advantages and disadvantages of the psychoanalytic method, and concludes by stating that in the case of war neuroses time

for treatment is so limited that this form of treatment is best left to special hospitals dealing with specially selected cases.

"We may pass on, then, to consider those methods of treatment which aim only at relieving the functional symptoms and do not profess to give the patient a new mind. There are three principles involved in all these methods, namely, (1) suggestion, (2) re-education, and (3) discipline. The aim of suggestion is to make the patient believe he will be cured, and to lead him on from this to the belief that he is cured. Re-education brings the disordered function back to the normal by directing it until the bad habit is lost, and disciplinary treatment breaks down the unconscious resistance of the patient to the idea of recovery." Adrian advises strongly against delay in treatment.

He next discusses hypnotism as a form of treatment and summarizes his statements thus: "In the majority of functional cases where the resistance is at all well marked our limited experience of the method has led us to believe that it is slow and uncertain in comparison with vigorous suggestive treatment and re-education. Isolation he regards as advisable or inadvisable in accordance with the individual temperaments of the patients. Persuasion often fails to produce results because a patient of average intelligence does not easily realize that his physical disability is due to mental and not to physical disorder.

As none of the foregoing methods of treatment, in Adrian's opinion, is particularly effective, he places greater confidence than in any other form of treatment in suggestion and re-education. He says: "The suggestive treatment may take any form, but it is essential that the patient should be convinced that it will produce an immediate recovery. In untreated cases there is rarely any difficulty in this, and the conviction can be strengthened by using a form of treatment which will be capable by itself of evoking some part of the function which is temporarily in abeyance." Special forms of treatment for special cases are then given, such as tickling the back of the mouth to compel a mute patient to make a sound, and applying the faradic current for paralysis. Adrian lays great stress upon interest in the case and absolute self-confidence on the part of the physician or nurse giving the treatment, and says that the patient also must be convinced of this attitude on the part of the person or persons in charge of his case.

The most common affections in which the suggestive method is pre-eminently successful are deafness, mutism, aphonia, stammering, blindness, paralysis of the limbs, and tremors, fits, etc. Rather full suggestions as to treating cases of the above by suggestion and re-education are given, and the article is concluded with a paragraph on prognosis and after-treatment.

Burton-Fanning, F. W. Neurasthenia in Soldiers of the Home Forces. Lancet, Lond., June 16, 1917, p. 907–11. Report to the Medical Research Committee

"This communication is entirely based on experience gained at the First Eastern General Hospital, Cambridge, where I was serving prior to going overseas with my present unit. Its object is to draw attention to the predominance of neurasthenia as a cause of going sick amongst our newly recruited soldiers. I use the term in its widest sense to include disorders of the nervous system which are believed to have no organic basis. . . . During the last ten months I have had charge of a number of medical beds in the First Eastern General Hospital which had carried from time to time between 120 and 180. Into these beds 2,240 patients have been admitted in the ten months, of whom 640 came in convoys from overseas and the remaining 1,600 were from Home Forces. Out of this last number 509 were thought by me to be suffering from neurasthenia and to be free from any organic disease. It would appear, therefore, that, speaking from an experience of ten months in a Territorial Force Base Hospital, nearly

one-third of the admissions into medical wards from Home Forces are for neurasthenia. . . . This communication only deals with soldiers of the Home Forces, but I should like to allude to the fact that neurasthenia forms a part or the whole of the disability of an astonishing number of men invalided from overseas."

Burton-Fanning then gives a picture of the neurasthenic soldier, tracing his troubles from the uncurbed nervous temperament and habits of boyhood through the strange and uncongenial, and sometimes terrifying, experiences of wartime to the final breakdown.

Symptoms and signs of the neurasthenic are then discussed. Special stress is laid upon the fact that symptoms in such cases are never limited to one region or organ, but are of widespread distribution. This should be the first point made in diagnosis.

Patients' chief complaints and the diagnosis with which they came to the hospital are next taken up in the order of frequency as follows: so-called "rheumatism," or "neuritis," or "gastritis"; pain in the heart, inability to draw a deep breath, proneness to giddiness or actual fainting, probably caused by a panicky emotional state; "lung disease," and bladder trouble. The writer states that, in his experience with war neuroses, he has found throat affections and those of the sexual organs rare.

Prevention is next discussed, and emphasis laid upon correct diagnosis by the physician so as to disabuse the patient's mind of any idea of organic trouble. The writer thinks that in general the prevention of neurasthenia comes within the sphere of education. All classes are affected, but few of his patients, he finds, have had a public school education, and so have not had the benefit of that "atmosphere in which character and manliness are developed side by side with learning, and which seems to prevent neurasthenia."

Treatment and prognosis are briefly discussed. "Treatment seems to resolve itself into an attempt to remove from the mind whatever is the disturbing influence. The doctor's first task, therefore, is to gain the patient's confidence and discover the nature of his troubles." For this, patience and experience in cases of this kind are necessary. Occupation for neurasthenic patients is usually better than rest as a form of treatment. As a rule it is better to return the neurasthenic to work at home or behind the lines where he can be of real value. He can rarely make of himself a real soldier.

Marriage, H. J. War Injuries and Neuroses of Otological Interest. J. of laryngol., rhinol. and otol., Lond., 32: 177–86, June 1917

The author deals with his subject under the following headings:

1. Injuries of the auricle and external meatus.
2. Injuries of the middle ear.
3. Injuries of the internal ear.
   a. Direct injury to the labyrinth by a missile.
   b. Indirect injury to the labyrinth in fracture of the skull.
   c. Concussion deafness.
4. Psychical deafness.

This abstract deals only with the fourth heading—psychical deafness.

This is usually bilateral and is found in men suffering from a severe shock. The deafness is generally absolute and the condition is usually accompanied by other nervous symptoms, such as loss of voice, narrowing of the field of vision, tremors, paralyses and areas of anaesthesia. Spontaneous nystagmus is absent.

The writer agrees with Milligan and Westmacott in attributing this condition to "a temporary suspension of neuron impulses from the higher cortical cells of the central nervous system to the periphery." He bases this view upon the fact that, in many cases of sudden deafness and blindness, no trace of any peripheral organic lesion can be found, and also upon the numerous rapid

recoveries made by patients, showing that probably no peripheral lesion was ever present.

Two case histories are summarized.

"These cases often recover with a counter-shock, with rest and massage, or by giving an anaesthetic, and, at times, the administration of asafoetida and valerian is useful.

"To distinguish this form of deafness from malingering is sometimes difficult, but it can generally be accomplished if a thorough examination is made, as the patient is very liable to give himself away during the performance of the various tests. The malingerer is usually sullen and defiant, has all his wits about him, and replies after deliberation, whereas a patient with psychical deafness has signs and symptoms of nervous breakdown."

For protecting the hearing the author recommends the use of obturators of plasticine wrapped in gauze, which can be molded to the shape of the external meatus, and are easily inserted and removed. He considers this form of obturator superior to the Mallock Armstrong. He advises against the use of plugs of celluloid, which may be set on fire by the flash of the shells.

Mott, Frederick W. Chadwick Lecture on Mental Hygiene and Shell Shock during and after the War. Brit. med. j., July 14, 1917, p. 39–42. Also in J. of ment. science, Lond., 63:467–88, Oct. 1917

F. W. Mott, in discussing the treatment of shell shock, states that in the early stages it varies to some extent in different individuals, according to symptoms and signs, but that there are some symptoms which are seldom absent in all true cases—namely, insomnia and terrifying dreams. He has found the continuous warm bath of great value in the treatment of these cases when they return from France. The bath is kept continuously at the temperature of the blood by a special mechanism of heat regulation; the patients are kept in the bath for a quarter to three-quarters of an hour, or even longer. The effect is most soothing on the nervous symptoms. A drink of warm milk added at bedtime, together with a warm bath, often suffices to produce sleep without hypnotics. If hypnotics are used less amount is required. Next, the general bodily condition must be improved by nourishing, easily assimilated food and regular evacuation of the bowels. The severe headache requires an icebag and drugs which relieve neuralgic pains. After improvement begins, an interest in surroundings and everyday life should be established. Noise must be avoided, and quiet is demanded, but not loneliness. As soon as they are better, patients are encouraged to become interested in games; also there are popular concerts and popular lectures to divert the mind and produce an atmosphere of cure, which is essential. Discipline is very necessary; laxity of discipline, over-sympathy and attention by kind, well-meaning ladies giving social tea parties, joy rides and drives, with the frequent exclamation of "poor dears," has done much to perpetuate functional neurosis in the British soldiers. The too liberal gifts of cigarettes have produced a cigarette habit in officers and men which is highly detrimental in these cases of war neurosis, especially in cases of irritable dilated heart. Those patients affected with a functional paralysis need much help and encouragement. Mott, in treating the immobile arm or leg, performs a number of associated movements with the afflicted member, telling the patient at the same time to help him by thinking of the same movement. After a little while the patient may be doing the main part of the movement himself. The greatest tonic for this type of cases is to tell the patient that he is not likely to be returned to active service, but that the aim of the treatment is to put him in shape for his previous occupation, or some work useful to the state, whereby he will not be a burden to himself or the community. Mott considers that if this method were adopted early, in a large number of cases known by an expert to be temperamentally unfit for

military service, a great economic saving would be affected. Malingerers would have to be guarded against. He entirely approves of the natural methods of restoring function, but not of the machines now in use in some places, as they are wrong in principle and in practice. Associated movements as in the use of parallel bars, the climbing rope, football, Indian clubs are all beneficial, as the mind is also concentrated on the limb as well as the means of procuring the movement, and the sound limbs are exercised at the same time. Diversion of mind by useful occupation, both in workshop and garden, has been successful in the cure of these disabled soldiers. Mott is convinced that occupation in the open air, while decidedly beneficial treatment for nervous cases in the convalescent stage, is not always popular with a certain type of case. Each case has to be studied as to work, hours, fatigue, and general sense of well-being. The money earned by these men should be supplemented to the pension money or gratuity.—Med. rec. 92: 295–96, Aug. 18, 1917.

Armstrong-Jones, Robert. Psychology of Fear and the Effects of Panic Fear in War-time. J. ment. science, Lond., 63: 346–89, July, 1917

R. Armstrong-Jones gives as an acknowledged fact that in the whole annals of mankind the most eventful period of a nation's psychology is that during which its people is passing through the crisis of war. Looked upon psychologically, war is the manifestation of a biological law, and it is the embodiment in man of a primordial and deep-rooted instinct. War is the resistance or the opposition to an innately organized force to be free, an instinct which is associated with the emotions of anger and hate, as well as fear.

Shell-shock has a powerful psychological effect on the men engaged in battle, and Jones gives five views that have been expressed as to the cause of the shock: (a) The sudden effect of an unexpected great fear or fright acting without warning as a strong emotional shock; here a physiological if not an organic change occurs in the cytoplasm of the neurons, and such a shock would tend also to dissociate the cerebrospinal from the autonomic system, and would give rise to the sympathetic symptoms which are present; (b) hypothyroidism is ascribed as a cause; this accords with the microscopical examination of the roots of the vagi and other neurons in some acute cases of neurasthenia; (c) hyperthyroidism; (d) the inhalation of poisonous gases, such as carbon monoxide or phosgene, which causes a disintegration of the red cells and consequent hemorrhages; lastly, (e) a definite molecular physical injury due to the exceedingly high pressure—sometimes positive and sometimes negative.

It is considered that the cerebrospinal nervous system hangs in a bag of fluid, or rests upon it, and that any shock communicated suddenly to the fluid would be felt mostly by the delicately anastomosing neurons in the motor horns sooner than by the neurons of the posterior spinal root ganglia, which are protected in a sheath of dura mater in the intervertebral spaces; also that the controlling neurons of the intermedio-lateral tracts would be affected. This accords with the experience that *motor* symptoms are more frequent than *sensory*, a dissociation between the cerebrospinal and sympathetic ganglia resulting in the dilated pupil, rapid heart, irregular breathing, precordial pains and visceral disturbances, all of which are sympathetic symptoms frequently met with in shell-shock.

Fear connotes a mental state in which the future appears to dominate the present, while the actual present is a revived experience of the past, this experience being a painful one; it is this revival that constitutes the emotion of fear. The power to experience fear is necessary to self-preservation, and is met with in early conscious life as well as in animals. Fear acts as a tonic to some natures, and to most of the soldiers at the front their life without peril or danger or fear would be insipid and flat. Fear is of two kinds, the sudden "unconscious"

indescribable reaction to danger, which is highly infectious, and the reasoned fear of the courageous man. It is the former that causes masses of people to experience panic, and is the most characteristic of shell shock cases, who should not be treated together but, as has been wisely suggested, interspersed with "superoptimists."

Jones maintains that practically all cases of shell-shock are caused through sudden unconscious fears and awe and can be quite restored if treated early.—Med. press, March 28, 1917.

Ballard, E. Fryer. Some Notes on Battle Psychoneuroses. J. ment. science, Lond., 63: 400–05, July 1917

The purpose of this article, says the writer, is to study shell shock, broadly, if briefly, from the aetiological standpoint. He considers the loss of consciousness due to "blowing up" only the "last straw" in the production of the psychoneurosis, as many break down without any such incident as an exciting cause. "One can adhere to the general psychological theory involving a belief in the subconscious suppression of emotional complexes, the censor, and sublimation, at the same time entirely denying the universality of sexual causes of psychoneuroses and psychoses. If anything has utterly confounded the sexual theories of the Freudians, it is the study of shell shock. It must be perfectly patent to the most bigoted sexualist that the instinct involved in shell shock affections is that of self-preservation, and not sex.

"The two main syndromes met with in shell shock are:

"1. Those of the anxiety neurosis type, manifesting tremors, sweats, palpitation, anxiety, somatic apprehension, insomnia, etc.

"2. Hysteria, comprising disassociations of consciousness, *e. g.*, delirium, stupor, automatism, amnesia; and somatic episodes, *e. g.*, deafness, dumbness, anaesthesia, paralysis, etc. A third type of hysterical manifestation is fits. These may be clinically 'hysterical,' hystero-epileptic, or typically epileptic."

Other symptoms worthy of mention are vertigo, stammering and rarely vomiting. In the great majority of cases of shell shock, both the anxiety syndrome and the hysterical symptoms are evident during the course of the case, and in a large number fits have been present, but where a somatic hysterical episode is maintained, the anxiety symptoms are absent. Physical signs sometimes seen in extreme cases are Romberg's sign and "trombone" movements of the tongue or protrusion.

The author then puts his aetiological hypothesis, *i. e.*, that suppression of fear into the unconscious and its maintenance there by the censor result, upon the occurrence of any disturbing incident or event, in a release of the fear complex in the form of agitated neurasthenia or the anxiety neurosis. If the soldier struggles to re-suppress, fits may result.

The second event is the development of an hysterical episode. Continuous suppression or re-suppression, attended by continuous over-stimulation of the instinct to action, brings about a stage of chronic hyperexcitability, resulting in physiological over-activity of the censor, hence cutting off from consciousness not only the fear complex, but other stimuli afferent to consciousness, thus producing the hysterical states of dissociated consciousness.

In regard to prognosis and treatment the author says: "Severe types that exhibit well-marked symptoms after six months do not recover in the army. A considerable proportion of those who 'recover' in hospital break down again at their depots or command depots, often with symptoms dissimilar from those they originally presented, and not uncommonly with fits. . . . Since shell shock is essentially mental in origin (whatever processes of auto-intoxication supervene), electricity, radiant-heat baths and other machinery are perfectly useless, except as vehicles for suggestion. Ten minutes' conversation daily with anxiety types, together with the assurance that they will not be sent on

active service again for many months, if ever, does more good than all the devices of the engineer or plumber.

"Of course the proper treatment for shell shock soldiers (I mean severe types) is analogous to that of civilians suffering from the same psychoneurosis arising from other causes; viz., after a few weeks in hospital, complete removal from the environment, at all events for a time, in which the illness arose. These soldiers ought, therefore, to be given not less than three months' leave, then be sent to a convalescent home, from there to a command depot. If they subsequently break down they are no use for the field and never will be. But under this régime I am perfectly sure men now discharged as permanently unfit would have been fit for some category.

"So far as hospital treatment is concerned, in addition to the measures outlined above, it is found useful to keep anxiety types in bed in the open air in the morning, and to allow them out walking with their pals (not escorts) in the afternoons. For medicine, bromide of ammonium with syr. glycerphos. co. is probably as good as anything. Hysterical somatic episodes . . . are usually cured without difficulty by hypnotic suggestion. . . . Hysterical fits occasionally precede the return of speech. . . .

"In some cases real partial anaesthesia, that is to say, the attainment of the stage of excitement, is necessary."

The author gives "two words of warning regarding the cure of somatic episodes."

(1) "Patients manifesting physical signs of fear (though feeling comfortable) as well as a somatic episode, should not be cured of the latter until the former disappears," otherwise physical consequences of over-excitement with no outlet (such as tremors) may result.

(2) When hypnosis is used as a form of treatment, care must be taken to distinguish between a real return of speech, and speech under the influence of hypnosis. A case of the latter is cited.

Townend, R. O. Two Cases for Comment; (1) Malingering or True Neurosis? (2) Malingering or Hysteria? Practitioner, Lond., 99: 88–91, July 1917

The author describes in detail two cases, observed by him from the British army, one of apparent tuberculosis and the other of epileptic fits. In his opinion, both were true malingerers to avoid military service. He asks for comments from other authorities as to whether, in their opinion, these symptoms could justifiably have originated from the stress and strain of active war service.

Hurst, Arthur F., and Peters, E. A. Pathology, Diagnosis, and Treatment of Absolute Hysterical Deafness in Soldiers. Lancet, Lond., Oct. 6, 1917, p. 517–19

Hurst and Peters are convinced from their experience that absolute deafness associated with normal vestibular reactions should be regarded as hysterical, and when simple encouragement fails, as will generally be the case if the patient is not also dumb, an "operation" should be performed after the patient has been made to feel quite confident that it will restore his hearing. This "operation" is described as having been applied in two cases of absolute hysterical deafness without mutism, and in one of them mutism was originally present, but spontaneous recovery had occurred some months earlier in which all treatment had failed. The first patient was given enough ether to make him excited, and two small cuts were then made behind his ear; a hammer was banged on a sheet of iron during the "operation," and the moment after the incision had been made the patient jumped off the table with his hearing restored. The other patient was unwilling at first to undergo an operation, but finally consented, as he was naturally im-

pressed by the recovery of the first patient, who was in the same ward and had been deaf for a much longer period. The same "operation" was performed and complete recovery occurred in exactly the same way.—J. A. M. A. 69 : 1652, Nov. 10, 1917.

Mott, Frederick W. The Brain in Shell Shock. Brit. med. j., Nov. 10, 1917, p. 612–15. Illus. References

F. W. Mott was able to study microscopically the brains from two cases of apparently pure shell shock. In both cases the brain showed marked macroscopic signs of congestion with many small ecchymoses on its surface. Microscopically one of the cases showed a generalized early chromatolysis, more or less marked signs of exhaustion of the kinetoplasm, congestion of the vessels of the pia arachnoid, scattered microscopic subpial hemorrhages, congestion of the vessels of the internal capsule, pons, and medulla, and hemorrhages into their sheaths. In the second case the vessels of the cortical gray matter were dilated but empty and the perivascular spaces were dilated, chromatolysis was more or less marked, and the other changes were similar to those found in the first case except for the fact that there was also an extensive extravasation of blood into the substance of the lower surface of the orbital lobe. Two hypotheses might be offered to explain the anatomical lesions, the one suggesting that as a result of the compression of the air and gases the skull and spine are struck as if with a solid body and the vibration, transmitted through the cerebrospinal fluid, causes molecular disturbances of the nerve tissues. The other suggests that the compression produced is followed by rapid decompression with the liberation of gas bubbles and the development of embolism. It would seem probable that both forces—compression and decompression—acted to produce venous congestion and arteriocapillary anemia with their resulting secondary effects. The congestion and anemia would explain such symptoms during life and in nonfatal cases, as mania and excitement on the one hand, and headache, amnesia, vertigo, stupor, inattention, fatigue, mental confusion, and terrifying dreams, on the other.—N. Y. med. j. 107: 186, Jan. 26, 1918.

Williamson, R. T. Treatment of Neurasthenia and Psychasthenia following Shell Shock. Brit. med. j., Dec. 1, 1917, p. 713–15

Williamson discusses numerous cases of neurasthenia and psychasthenia following shell shock, and summarizes his views as follows:

"1. All anxiety and fear of further exposure to similar risks to life, and anxiety from other causes should be removed if possible, and the patient should be definitely told that he will certainly recover.

"2. The sleep treatment is very useful. At first hypnotic drugs may be given both at night and during the day for a short time, so that the patient may sleep all night and for a few days also during part of the daytime.

"3. He should cease thinking of the war and his experiences. This may be brought about (*a*) at first by the sleep during part of the daytime as well as during the night, as just described, and by occupation whenever he is awake; (*b*) afterwards he should be kept asleep all night (by drugs), but during the day the drugs should be discontinued and he should be kept fully occupied in a suitable way.

"4. As regards the kind of occupation:

a. A new subject, or one not associated with his war experience is desirable.

b. Very close application to the work in hand is important.

c. The occupation should be one requiring thought and if the patient finds, after continuing it for some time, that it can be done mechanically, the occupation should be changed or altered so that thought is required.

d. It should be one very interesting to the patient and one which will become more interesting.

"Many other methods of treatment have been tried and recommended, but I have not attempted any review of the literature of the subject, and have only considered the treatment which, from my own observations, has appeared suitable. In many of the severe cases recovery is very slow, but I think the line of treatment suggested will be found of much service."—J. B. H., Bost. med. and surg. j. 177: iv, Jan. 24, 1918.

Eder, Montague D. War-Shock; the Psychoneuroses in War; Psychology and Treatment. Lond., Heinemann, 1917. 154 p.

This book is based upon a study of a hundred consecutive cases (psychoses excluded) which came under the author's observation while he was in charge of the psychoneurological department at Malta. The larger number were admitted directly to the special department of which he was in charge. The following are the author's "conclusions":

(Chapter 8, p. 144–45)

(1) War-shock is hysteria occurring in a person free from hereditary or personal psychoneurotic antecedents, but with a mind more responsive to psychical stimulus than the normal.

(2) The wrenching from the customary calling and life, the new discipline, the peculiar and terrible mental strain of modern war-conditions acting upon this sensitive mind determine the disease among soldiers.

(3) In 100 consecutive cases of psychoneurosis 70 per cent correspond to this description; 30 per cent have neuropathic antecedents, hereditary or personal; the latter correspond more closely with the psychoneuroses seen in civil life.

(4) Shell-shock, gas-poisoning, or other physical injuries do not cause the disease. The symptoms are protean—palsies, analgesia, amblyopia, mutism, deafness, affections of the vegetative system such as the soldier's heart, vomiting, diarrhoea, insomnia, loss of memory, somnambulism, phobias and obsessions of all kinds.

(5) These symptoms are the result of mental conflicts or other mental phenomena; all the symptoms can be understood in terms of the mind without any reference to physiopathology.

(6) The psychopathology of war-shock is that of the psychoneuroses, and the mechanisms those discovered by Freud in hysteria.

(7) War-shock is not a new disease; it is a variety of hysteria where the one factor (the psychic trauma) is overwhelmingly large in relation to the second factor (predisposition); it is separated from non-war-shock cases in degree, not in essence.

(8) The treatment par excellence is hypnotic suggestion, the suggestion by preference being directed to the complex as determined from the psychological examination and general psychoanalytic conclusions.

(9) 91.5 per cent of cases of war-shock were cured by this method and 8.5 per cent improved. Of soldiers with previous neuropathic antecedents, who were cured, 27.6 per cent improve and 10.4 per cent are unaffected. Cure is very rapidly effected; most cases are well in less than two weeks, some in a few minutes or hours.

(10) The usual objections to hypnotic suggestion do not apply to war-shock by reason of the absence of neuropathic antecedents.

(11) All methods of treatment, other than psychoanalysis, are based on suggestion, including "spontaneous recovery," persuasion, reasoning, symptomatic treatment, electrotherapy, etc. The objection to these indirect forms

of suggestion is that they are less effective (more uncertain and less rapid) than suggestion under hypnosis.

(12) The earlier the patients are treated by this method the better.

(13) The majority of war-shock patients so cured can return to the front in three to six months.

(14) Cases of "functional" disease should not be discharged from the army until cured.

Hurst, Arthur F. Functional Nervous Disorders. In his Medical Diseases of the War. Lond., Arnold, 1917. p. 1–40. References

"Functional nervous disorders have been relatively more common in this than in any previous war, mainly owing to the use of enormous numbers of high explosive shells. The symptoms produced do not differ from those seen in civil life, but they have been common instead of rare. It is difficult to classify them satisfactorily. They might, for example, be separated under the heads of neurasthenia, psychasthenia and hysteria, but these conditions are often present together, and many cases occur which cannot be correctly included under any of these heads. They might also be classified according to their etiology; the largest proportion of functional nervous disorders are due to the effects—apart from actual wounds—produced by high explosive shells whilst others result from the long continued physical and mental strain caused by active service. . . . No scientific classification will therefore be attempted, but the various functional nervous disorders, which have been observed during the war, will be successively described. . . ."

The writer then takes up the etiology of neurasthenia. He states as the primary causes physical fatigue and mental strain. On account of the latter factor, officers have suffered more than men because of greater responsibility. There may also be a toxic factor, originating in illness, great heat, and in some cases in anti-typhoid inoculation. An important group of cases are those in which a physical injury is the exciting cause.

Shell-shock may be defined as the symptoms produced by exposure to the forces generated by the explosion of powerful shells without any visible injury. In many cases physical concussion has also occurred. Symptoms occur most readily in those with a neuropathic inheritance, in those who are abnormally emotional or who have previously suffered from a "nervous breakdown." The author then describes the pathology of shell-shock. Carbon-monoxide poisoning enters largely into the symptoms of shell-shock. These are very varied, and the author explains why one man becomes deaf, another blind, another dumb and another hemiplegic. As a result of shell-shock, all the functions of the body are temporarily in abeyance for a period varying in different cases. These functions gradually return, some more rapidly than others. The patient suddenly realizes with his slowly awakening mind that one of these functions is lacking, worries over it, and by auto-suggestion perpetuates what would otherwise be a temporary incapacity. Several case histories of this kind of hysterical paralysis are cited.

The writer then discusses and cites cases of stupor, amnesia, double personality, headache, mental irritability, fatigue, insomnia, nightmares, hallucinations, obsessions, functional asthenopia, hysterical blindness, hysterical deafness, hyperacusis, hysterical dumbness, stammering, aphonia, hystero-epilepsy, tremor, paralysis and contractures, pain existing after the cause has been removed, malingering, and organic nervous diseases.

In the way of treatment complete physical and mental rest are essential for both neurasthenia and shell shock. The use of suggestion, hypnotism and drugs as therapeutic measures is discussed.

The chapter is followed by a list of selected references.

Smith, G. Elliot, and Pear, T. H., "Shell-Shock and its Lessons," Manchester University Press, London and New York, Longmans, 1917. 135p.

An interesting foil to Mott's Lettsomian Lectures is the Manchester University publication entitled "Shell-Shock and its Lessons." The authors are a physician and a psychologist. The physician, G. Elliot Smith, is the eminent Dean of the Manchester University Faculty of Medicine and an authority on embryology of the brain and the anthropology of the Egyptians; the psychologist is T. H. Pear. The book is dedicated to Major R. G. Rows, whose point of view with respect to the treatment of shell-shock is commended. The greater part of the book is devoted to general considerations supporting the functional point of view in the treatment of the psychoneuroses. "Precisely in those cases of psychoneuroses which yield to psychic treatment, there is no anatomical, pathological or chemical evidence of inheritance. . . . While the contributions of anatomy, physiology and pathology to the treatment of psychoneuroses have not yet gone beyond theoretical and mutually conflicting suggestions, the psychological method of investigation and treatment, on the other hand, has proved itself of practical use in returning patients to the normal state of health. . . . The psychoneurosis is often simply a progressive state of mal-adaptation to environment—a mental twist which can be corrected if treated suitably at a sufficiently early age.

"While it is indisputable that the psychoneuroses, like all mental phenomena, have a material basis . . . to sit with folded hands and wait for the advancement of our knowledge of anatomy, physiology and bio-chemistry would be fatuous, when there are other and more direct means of treating the numerous and often pathetic cases which urgently call for cure."

The inadequacy of the term "shell-shock" is acknowledged but the term seems to have taken hold as against the more satisfactory, but less widely employed term, "war strain."

We must look in the emotional sphere rather than the intellectual sphere for the explanation of these conditions, characterized by instability and exaggeration of emotion.

The method of visiting patients in the wards, adequate as it is for the care of physical injuries, is insufficient for mental cases. Shell-shock can occur in a person in perfect physical and mental condition. How long he stays in the trenches depends upon himself, namely, upon his temperament, disposition and character.

Loss of sleep is followed by pains, unpleasant organic sensations, hyperaesthesia, irritability, emotional instability, inability to fix attention, loss of self-control. The absence of external manifestations proves nothing. Fear and other emotions are suppressed. The suppression of emotion is exhausting. In modern warfare the soldier cannot always give vent to pent-up emotion by charging the enemy. Finally collapse occurs when a shell bursts in the air, even though there be no actual contact with missiles, earth or gases. Loss of consciousness is common, and upon recovery there are often very severe immediate disorders of sensation, emotion, intellect and will.

Then follows an enumeration of the now well-known phenomena of shell-shock—blindness, deafness, dumbness, contractures and subjective disorders. The strangely dramatic cures of these cases were among the most startling phenomena of the war. Two functionally mute patients were cured upon hearing that Rumania had entered the war. Another was cured by a view of Charlie Chaplin. However, many cases are not so simply cured, and the greater part of this book is devoted to the lessons drawn from the necessity in many cases of more elaborate treatment, especially treatment by psychological analysis and re-education.

Many quotations are made from the work of Déjerine and Gauckler (The Psychoneuroses, etc., translated by Jelliffe). Gaupp is quoted to this effect: "There is no justification for calling every instance [of war hysteria] a case of malingering or simulation. There are quite capable men of irreproachable character whose nervous system is positively unfit for the hardships and horrors of war." Some of these, it is said, take refuge in disease.

As to treatment, the necessity of early measures is stressed. As to firmness and sympathy, even were these milder psychoses to be regarded as varieties of simulation, still the method of firmness is hardly calculated to meet malingering. However, mere sympathy of the "cheer up" or "forget it" variety is not to the point.

Isolation may work in some cases, but isolation even accompanied by rest and over-feeding is never enough. In any event, the situation with soldiers is quite different from that of civilians. The value of suggestion and hypnosis is unquestioned. C. S. Myers has relieved acute symptoms in recent cases of shell-shock by hypnosis. In general, however, the results of hypnotic treatment may be described as brilliant but erratic. The same may be said of electricity as a treatment for the vocal cords in hysteric aphonia. There is a certain value to work. This must be prescribed as a sequel to (not as a substitute for) the performance of work by the doctor. There is, however, an individual and personal essence to any particular example of shell-shock.

Just as butchery is not anatomy, so the ordinary methods of psychological analysis by alienists are not the true methods. To say that a man is suffering from a delusion of persecution or a fear of open spaces is merely a carving-up of his mind. What we must rather get at is the interpenetration of these beliefs with the rest of his mental life. The history of the delusions is in point. Moreover, psychological analysis is not the mechanical kind of thing suggested by anatomy; chemical analysis is a better analogue.

Jung's view of a neurosis as a failure of adaptation is favorably quoted. It is not necessary to subscribe to any one doctrine of psychoanalysis. The term "analysis" should hardly be applied to the theories that underlie and determine the process of re-education. Perhaps the term should be reserved for the diagnostic method rather than for any given theory supposed to underlie the process. "The ultimate lines on which an ideal diagnostic analysis and curative re-education will be possible are yet undefined."

Chapters IV and V are devoted to general considerations and lessons. The British attitude to psychiatry is severely arraigned. "The community treats the sufferer well when, but *not before*, he has become a 'lunatic.' That is the British procedure today."

American work upon the borderline cases, as at the Psychopathic Hospital in Boston, is cited somewhat at length.

It appears that the Medico-Psychological Association of Great Britain and Ireland had issued an elaborate report on this matter by a committee appointed in November, 1911. Then the war stepped in and made the problem even more disturbing. "If the lessons of the war are to be truly beneficial, much more extensive application must be made of these methods (the institutions for borderline cases) not only for our soldiers now, but also for our civilian population for all time."

Abraham Flexner's report on medical application in Europe is quoted. It seemed that precisely what the English and French medical education have to their credit, namely, an extraordinary practicality, is completely left out of the teaching of British psychiatry. Flexner showed that German education in its clinical instruction was overwhelmingly demonstrative; that is, students *saw* and *heard* but almost never *did*. How strange it is that German psychiatry should be so much more practical a matter than the psychiatry of England, which in general, is the home of practicality.

"The most depressing aspect of the present state of affairs is the comparative absence of all research."

The chief functions of a psychiatric clinic for early and incipient mental disorder staffed by skilled specialists are:

(1) Attendance on the mentally sick;

(2) The provision of opportunities for personal intercourse between patients and the psychiatrists in training;

(3) The theoretical and practical instruction of students;

(4) Advising general practitioners and others who are faced with difficult problems arising in their daily work;

(5) To serve as a connecting link between investigation in the large asylums and that in the anatomical, pathological, bacteriological, biochemical, psychological and other laboratories of the universities;

(6) The scientific investigation of the mental and bodily factors concerned in mental disease;

(7) The furtherance of international exchange of scientific knowledge concerning mental disorder, by the welcome accorded to visitors from other countries;

(8) The dissemination of medical views on certain important social questions and the correction of existing prejudices concerning insanity;

(9) When necessary, the after-care of the discharged patient.

The Henry Phipps Clinic in Baltimore, and the Munich and Giessen Clinics in Germany are mentioned. The one good step in England in this direction is the establishment of the Henry Maudsley Mental Hospital. In 1849, a visiting committee of Hanwell Asylum suggested reform "but the dust lies thick upon this volume published a long time before the Crimean, not the present, war." —E. E. Southard, Mental hygiene 1: 401–05, July 1917.

CANADIAN LITERATURE

PERIODICALS ABSTRACTED

Bulletin of the Ontario Hospitals for the Insane
Canadian Medical Association Journal

CANADIAN LITERATURE

Ryan, Edward. Case of Shell Shock. Canadian practitioner and rev. 41: 507–10, Dec. 1916. Also in Ont. hosp. for insane, Bull. 9: 10–15, Oct. 1916

The article records the case of a soldier who, on June 1, 1916, was blown up in his dug-out (in France) by a shell which killed all his comrades. He was rendered unconscious, and, on recovering his senses, his ears were ringing and his voice very faint. Another shell blew him up and he again lost consciousness. When he came to, he was in a dressing station. He had violent headache, and was completely deaf and dumb. On admission to the Ontario Hospital he was still suffering from headache, and he complained of pain and tenderness along the course of the seventh nerve, well up in the temporal region, across the forehead, and along the course of the posterior auricular nerve. He was absolutely deaf and could not speak, whistle or laugh. There were no marks of external violence and no organic lesions. In respect to psychic manifestations, the patient was clear as to time, place and person; his memory for past events was undisturbed; for recent events it was quite clear up to the time of the shock. There the train of events was broken. He was depressed, and his countenance had a strained and anxious look; he seemed to be struggling hard to adjust the train of events. He would rest on his elbow with his hands in constant motion. His lips frequently moved as if he were talking to himself. There were fallacious sense perceptions, especially of hearing; he maintained that he heard the noise of the bursting of shells, the explosion of mines, the crack of rifles and the general din of battle. He constantly declared that his hearing was normal, but that those conversing with him would not speak loud. He was irritable and peevish, especially when doctors, nurses or visitors were present. The only delusion noted was that a friend who was in another ward had visited him and remained all night. There was nothing very abnormal in his conduct. He expressed in writing a hope that the barber who shaved him would make a clean job, making his meaning plain by drawing a finger across his throat. Precautions were taken against suicide. Early in the morning of June 14, he began to speak, at first in a thin, indistinct voice, which afterwards gained volume daily. When convinced that he could speak, he improved rapidly and gained weight. At the date of the report he was still stone deaf, but this did not trouble him much, as he felt that, having regained speech, he would in time recover hearing. Ryan thinks with most other observers that the condition is purely psychic, but that trauma and the idea of a trauma are contributory or predisposing causes. In many of the cases which he has seen in the various hospitals the earmarks of degeneracy were observable. As an example of the types most frequently affected, Ryan cites the case of a sapper with the following family history: The father, aged 74, was very nervous, was said to have Bright's disease, and as far as the son could remember had never done any work. The mother died aged 58. She had been ailing for eighteen months, was very nervous, and suffered from diabetes. Of four brothers one died young, another who had been epileptic for years died in the street as the result of a fit; a third was killed by a fall; the fourth was alive and well. Of two sisters, one had fits, while the other was very delicate. The patient himself when young had frequent fainting attacks, during which he partly lost consciousness. He had had similar attacks several times since he joined the army.

As for treatment, Ryan says it is essential that these cases should be taken early. Each case must be dealt with according to individual indications, the idea of injury must be removed, and what Mott calls the "atmosphere of cure" must

be created around the patient. Hot packs and baths, continuous baths, alcohol rubbings and massage were used with very satisfactory results. Rest in bed with forced feeding is always essential. Ryan has not found anaesthesia of any service.—Brit. med. j., Feb. 17, 1917, p. 230a.

Von Eberts, E. M. Functional Re-education and Vocational Training of Soldiers Disabled in War. Can. med. assoc. j. 7 : 193–200, March 1917

The French first recognized the necessity for rehabilitating disabled soldiers and the other European countries are following their methods.

Von Eberts divides the process of rehabilitation into five stages:

1. Active medical and surgical treatment.
2. Functional re-education.
3. Provision of artificial appliances.
4. Vocational training.
5. Establishment in civilian life.

Functional re-education and vocational training are often coincident. The latter should be begun at the earliest possible moment and while the disabled are still under military discipline. The patients should be encouraged continuously to have a hopeful and cheerful outlook for the future, and the prospect of self-support should be emphasized.

"In France methods of functional re-education comprise mecanotherapy, gymnastics, graduated exercises, massage, treatment by galvanic, static, faradic and high tension currents, by baking or blasts of hot air, by baths, by vibration, and by colored lights."

Properly selected and graduated work has not only a beneficial psychic effect, but also is the best possible means of re-accustoming muscles to action.

The article is concluded with a discussion of artificial appliances.

Wright, H. P. Suggestions for a Further Classification of So-called Shell Shock. Can. med. assoc. j. 7 : 629–35, July 1917

The purpose of the article is to present for consideration a review of the various kinds of so-called shell shock, with a view to separating deserving cases from malingerers, at the same time emphasizing the impossibility of drawing hard and fast rules and of tabulating satisfactorily the kinds of shell shock.

The writer observed cases at the Granville Canadian Special Hospital, Ramsgate, Kent. From these observations he drew up the following classification:

1. Shell concussion.
2. Shell hysteria.
3. Shell neurasthenia.
4. Malingering.

Shell concussion he defines as "a condition of unconsciousness caused directly by the physical forces generated by high explosives, and in a large majority of cases followed by a traumatic neurosis." In this class, the man is most frequently knocked unconscious and either is buried, or suffers an injury to his head, or is blown up and lands on his head.

A man injured in this way *does not remember hearing the shell coming and has complete loss of memory from the time just previous to the explosion, to a period varying from half an hour to hours after the explosion.*

"The general symptoms of this class are headache, dizziness, loss of memory, shaking, and very often, by the time they reach the hospital, a traumatic neurosis has developed. . . .

"In this class it is not difficult to accept the pathogenesis of shell shock as described by different observers, *e. g.*, increased pressure of spinal fluid, and the presence in it of albumen, blood, etc., for the first forty-eight hours. These cases usually recover; of the others that die, we do not know. I suggest that this is the only class of shell shock that die from the original trouble. . . .

"In a consideration of the three last groups—shell hysteria, shell neurasthenia and malingering—I fully appreciate the great difficulty in separating them from one another, and realize that in both hysteria and neurasthenia there may be an element of malingering, and that the term psychogenetic . . . satisfies all these demands. . . . The primary cause of the trouble is psychic. How this disturbed psychism manifests itself is of little importance. That is, whether the man is blind, or dumb, or has a functional paralysis, the mental pathology is the same. In other words, a discord has resulted and the patient should be taught to functionate without discords. . . . The only way to treat the disease is to help the patient to regain control of his mind."

The author then discusses *shell hysteria*. He defines it as "a condition of superemotionalism, in which one or more of the senses is hyperbolic and exaggerated, without any known organic cause." It usually has an hysterical basis. Potential factors involved are:

1. Hereditary mental instability.
2. Acquired mental instability, such as nervous diseases the patient may have had in childhood or youth, *e. g.*, convulsions, chorea, fits, etc.
3. Age. Cases are universally under thirty years of age and often in the teens or early twenties.
4. Alcoholism. Alcohol acts by depressing the higher centers, and, since its effect lasts twenty-four hours, may not the issuing of rum to the men just before an attack prepare the brain for shell hysteria?

In a case of shell hysteria, it is important to find out how long and under what conditions the man has been at the front, "as shell hysteria very seldom occurs in a veteran of some months' standing." The psychic impressions just previous to being buried or blown up, such as the hearing of the shell coming, etc., should be noted. Other hysterical stigmata may result from suggestions made by those in charge of the patient when his mind is in so receptive a state as a result of his experience that he is glad to welcome any new symptom that may tend to render him unfit to return to the front.

A few points in the physical examination are of interest. The patient is usually fairly well nourished. There is tremor of the tongue and hand. The pulse rate is slightly increased and noticeably so following exertion or excitement. Usually profuse sweating of the arm pits is present. There is marked dermatography, usually of a dilatory type. Blood pressure, systolic from 130–145, diastolic 90–100. Knee jerks are noticeably increased. There is no pathological reflex, but often a pseudo-ankle clonus. On account of physical findings, many of these cases are confused with hyperthyroidism.

Shell neurasthenia is "a condition of bodily and psychic asthenia occurring as a result of the exigencies of active service." The etiological factor of shell neurasthenia must necessarily be similar to that of shell hysteria, and heredity, acquired mental instabilities and alcoholism play the same roles as in the latter.

As to age, the majority of cases are among older men as opposed to the hysterias, which usually occur in youths. "The reason of this may be that, as a rule, the older man has himself under better control, and manages to escape shell hysteria. However, after months, the struggle is too much for him and he succumbs to nervous and bodily exhaustion, and the result is the typical neurasthenic. Neurasthenia, in a man who has put up a good fight for some months under trying circumstances, is an unreasonable disease with a reasonable cause—and I would go further, and say that shell neurasthenia would almost certainly result in any of us if we 'stood the gaff' long enough. It is only by the judicious

withdrawal of battalions, etc., from the front line to billets, where they may rest and recuperate, that the British army is saved from being an army of neurasthenics."

Syphilis in its tertiary state is primarily a disease of the nervous system, in which that part of the nervous system exercised most first shows fatigue and eventually paralysis. "Neurasthenia is exhaustion, and I suppose no two things age a man more quickly than alcohol and syphilis."

The symptoms of shell neurasthenia are varied. The most usual are headaches, dizziness, insomnia, anorexia, and usually visceral or spinal pain.

"I imagine that the cases of shell shock resembling Addison's disease, which have been recorded by Crile, are the truest examples of shell neurasthenia. . . ."

Malingering. "It is not my purpose to consider the ways and means for its detection, and I have only included it in the possible category of shell shock because no classification would be complete without its enrolment. To endeavor to detect the malingerer is not at all a palatable task, but, in the interests of the country, it must be done. . . . Infinite patience and a suspicious mind usually discover the imperfect detail of the symptoms or signs of the malingerer.

"Modified forms of malingering, such as hystero- or neuro-'malingeritis,' are of a different nature. The shell hysteric or neurasthenic may develop into a malingerer, and the cause is not hidden nor difficult to find. It is assuredly difficult to supply an impulse greater than that of self preservation. The shell neurasthenic does not recover as quickly as he would if the war was over and the state of civilization not sufficiently advanced to set up the Pension Boards."

Russel, Colin Kerr. Study of Certain Psychogenetic Conditions among Soldiers. Can. med. assoc. j. 7 : 704–20, Aug. 1917

"I am using the term 'psychogenetic conditions' to include those cases of disability which have, as the main symptoms, motor and often sensory disturbances; and which, on thorough examination of the nervous and locomotor systems, show no corresponding designs of organic disease, and which the subsequent history shows to be of a purely mental origin.

"These cases may be divided into two main groups: (1) What we would, in civil practice, diagnose as hysteria; (2) Malingering. It is these two conditions which I wish to discuss. It is rather interesting to me to compare my experience in a general hospital in France with my experience in this hospital in England (Granville Canadian Special Hospital, Ramsgate). One or two facts seem to me to stand out most prominently:

"1. In France we never saw hysterical manifestations in a man who had received a shell or bullet wound.

"2. In France, at the time of the Loos affair, during the shooting season one saw numerous cases of men who were brought in apparently deaf and dumb or blind, who lay in bed evidently in a state of nervous exhaustion—possibly throwing the head or limbs from side to side—who would apparently pay no attention to any one speaking to them, but we saw very few cases of psychogenetic paralysis of limbs, and, in every case I did see, I was forced after careful observation and study to come to the diagnosis of malingering rather than that of hysteria." A case of probably simulated right hemiplegia is described.

"I saw quite a number of compulsive seizures, some, of course, genuine idiopathic epilepsy, but others definitely psychogenetic, and it was in the consideration of these cases that I first came to the conclusion that there is a very close association, especially in the early stages, between hysteria and malingering. In both conditions at the commencement there is the same small element of deception, which, if not recognized and corrected early, in the one case grows enormously because the patient is not deceiving himself, but is becoming confirmed in his ability to deceive others; in the other case, the deception does

not become so obnoxious, at least, because the patient has finally by a process of auto-suggestion, or even auto-hypnotism, aided possibly by suggestions of casual examiners, managed to deceive himself as well. "A case of 'semi-malingering' is described.

"Now in England I have found a great number of cases of paralysis of either one or both legs, or of an arm—of a psychogenetic origin—and relatively very few of these have received wounds." Three cases are described.

"In all these psychogenetic conditions there is primarily an element of deception. Some patients who may be especially constituted mentally manage very soon to deceive themselves. In the others we find the pure malingerers. In the first group it is difficult to determine how much they themselves are deceived, but we can readily realize that the longer they are allowed to go on deceiving themselves, the more difficult will be their disillusionment."

The remainder of the article is based upon a study of sixty cases that came under the author's observation at the Granville Canadian Special Hospital. These included cases of muscular paralysis of various types of a purely functional nature, deaf-mutism, myoclonus, "trench back," and a few cases of localized spasm of psychogenetic origin producing an equino-varus deformity. As these cases were purely mental in origin, the author uses the term psychogenetic to include both the hysterics and malingerers. For recognition of this psychogenetic origin, a thorough examination of the nervous system to exclude with absolute assurance any organic lesion is always necessary. The chief cause producing these symptoms with no existing organic disease is, in the author's opinion, a mental conflict between the instinct of self preservation and the moral sense, superimposed upon individual temperament, and the physical and mental exhaustion and terrifying conditions of modern warfare. This reduces the individual, in a shorter or longer period of time according to his temperament, to a state of hypersuggestibility and sensitiveness that makes any unusual event or accident appear much magnified. A case of paralysis from wounds with treatment is described. Points emphasized by the author as to treatment are: gaining the patient's confidence; avoiding all suggestions during examination that may influence his state of mind; a frank statement of the nature of the case to the patient; the application of some strong, sudden and unfamiliar stimulus, causing reflex action before cerebral inhibition can prevent, and continuing this treatment without rest until a perfect result is obtained.

Dr. Russel does not approve of using hypnotism alone for such cases; symptoms may be cleared up by its use, but, as hypnotism is "induced hysteria," true hysteria cannot be cured by superinducing the same condition. A case of deaf-mutism in which hypnotism was used successfully is described.

The author disapproves also of the use of an anaesthetic for curing deaf-mutism. Such treatment makes no attempt to get at the real pathological condition and leaves the patient liable to develop again the same symptoms.

The last type of cases discussed consists of those who seem to lack general emotional control, and who suffer relapse at the occurrence of an untoward event. For these cases the author finds that the mental incentive of a promised recommendation for discharge as unfit works rapidly.

"One should always remember that such individuals, who are more than ordinarily suggestible, are such as the martyrs were made of, and, if their suggestibility be fully inspired by great patriotism, or some other such enthusiasm, they may prove themselves capable of the greatest heroism."

FRENCH LITERATURE

Periodicals Abstracted

Annales Médico-Psychologiques
Archives d' Électricité Médicale
Archives de Médicine et de Pharmacie Navales
Archives des Maladies du Coeur
Bulletin de l' Académie de Médicine
Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris
Caducée
Comptes-Rendus de la Société de Biologie
Gazette Hebdomadaire des Sciences Médicales de Bordeaux
Journal de Médicine de Bordeaux
Lyon Médical
Marseilles-Médical
Paris Médical
Presse Médicale
Progrès Médical
Revue de Laryngologie, d'Otologie et de Rhinologie
Revue de Psychiatrie
Revue Neurologique
Thèses de Lyon
Thèses de Paris

FRENCH LITERATURE

Hesnard, A. Mental and Nervous Symptoms following Naval Disasters (Les troubles nerveux et psychiques consécutifs aux catastrophes navales) Rev. de psychiatrie, Paris, 18: 139-51, April 1914

The . . . paper is a pre-war contribution based upon cases surviving from the explosion of the "Iena" and "Liberté" at Toulon in 1907 and 1911. Such cases are especially interesting, as they exhibit symptoms, in the etiology of which emotional shock plays an indisputable and primary role. The writer divides his cases into those which exhibit minor psychopathic symptoms, and those which manifest the symptoms of a grave psychosis. He excludes those cases in which emotion appears to play only a secondary role, and those in which the psychosis is due to the action of some well-defined agent, such as physical shock, asphyxia from gas, surgical shock, etc.

Among the minor symptoms at the moment of the shock are noted a state of semi-somnambulism, automatic mental activity, absorption in some trivial occupation, such as an exclusive preoccupation in the attempt to save some garment, a strange lucidity and feeling of exaltation, and a period of amnesia. Those who took part in the work of rescue and approached the horrors of the accident showed for several weeks symptoms of mental unrest, intense obsessive representation of the scene, terrifying dreams, diffuse anxiety, fatigue, and various minor phobias. A collective morbid mental state—fear, tension, etc.—was noted for some time afterwards among the civil and military population. This was especially marked in a sudden, unmotived panic which occurred at the funeral of the victims of the accident.

As regards the more severe disorders, the cases are divided into two categories: (1) those with a strong predisposition to mental disorders, degenerates and constitutional defectives, who exhibited psychoses in accordance with their particular predisposition, and those subjects with acquired defects who manifested psychoses corresponding to the defect, *e. g.*, chronic alcoholics with delirium tremens; (2) those with only slight predisposition, the majority of whom showed the symptoms of mental confusion.

It is this second category, in which the individuals show a minimum of predisposition to mental disorder, that the term *emotional psychosis* is most correctly applied. In such cases there is usually a period of normal mental equilibrium, followed by a phase of general fatigue, nightmares, and retardation. This precedes the state of actual confusion associated with anxiety and excitement. Several illustrative cases are given.

Such a psychosis thus evolves in the same way as a transitory psychosis caused by some intoxication. The identity of course and symptoms leads the writer to suggest that in these cases the emotion-shock can, in certain organisms hitherto healthy, cause certain nutritive disturbances, and liberate certain cytotoxins capable of acting on the brain and producing a definite mental syndrome. The diminution in the secretion of urine and the decrease in chlorides which is observed in these cases lends support to this view. The toxins may be primary, due to a special disorder of metabolism hitherto unknown, or they may be secondary, freed in the organism as a result of emotional inhibition of such organs as the liver and kidneys, or possibly consecutive to modifications in the innervation of the sympathetic nervous system.—J. of ment. science, Lond., 63: 419–20, July 1917.

Hesnard, A. The Importance of the "Symptom of Absurd Answers" in Military Psychiatry (Le valeur du "symptôme de réponses absurdes" en psychiâtrie militaire) Arch. de méd. et phar. nav. 101 : 420–29, June 1914

The article deals with the detection of the simulation of insanity as distinguished from real psychopathic states through what may be called the syndrome of absurd answers. These are used by the malingerer to deceive the doctor. But it is necessary to remember, and this point Hesnard emphasizes, that this same symptom may, in certain cases, especially those of incipient dementia praecox, exist as a sole and distinct condition of impairment in a mind still practically sane from the clinical point of view, and may thus present a perfect semblance of malingering. Hesnard suggests calling this "false simulation." It has also been called the "symptom of Ganser."

Descriptions of two cases are given: The former was "a young soldier who had been tuberculous for some time. One day in barracks he became very much agitated and excited. After having been taken to the hospital, he quickly grew calm, and presented, from that time on for about a month, the exact appearance of a malingerer. The surgeon who had previously treated him, the doctors who had examined him, the nurses, etc., considered him as such, and it required a positive act of faith in our diagnosis to admit that there was a possibility of mental disease. Even the family of the patient were impressed and spent their time making daily visits to explain to him that he would be invalided without having to have recourse to a stratagem so extreme as the feigning of madness. At the end of twenty days of isolation, the major symptoms rapidly appeared: stupor, grimaces, negativism, incoherent gestures, etc., together with hemoptysis. The sufferer, who was then considered actually insane, died in two months of acute pulmonary consumption." The autopsy revealed very recent lesions of tuberculous meningitis, and diffuse and relatively old cellular lesions.

"The syndrome of the onset of the malady that we watched transforming itself under our eyes into a catatonic syndrome of a typical nature was as follows:

"This patient, sometimes so agitated, so depressed, so confused, more often showed an apparently wholly natural gaiety, and wore a little bantering smile which seemed full of humor; his expression was not quite natural, but he could easily fix his attention upon the examiner. He shook hands, was polite, well-behaved, complained courteously of the discomforts of his room, appeared to have a good memory. To certain questions he undoubtedly responded in such a way that it was impossible to know if the memories evoked were able to be recalled. However, in his automatic responses, he appeared to be oriented, and to recall all that was necessary to a perfect comprehension of the situation. His irrelevant answers, sounding like intentional absurdities, followed only certain questions, especially those that he seemed to have interest in evading, all those, for instance, that were connected either closely or distantly with his knowledge of his illness and with the reasons for his being in hospital. His actions and gestures were almost normal, except for a trace of incoherence which suggested that of his phrases, and tics and grimaces. His attention could be easily attracted to things happening about him, and only the attention necessary to give accuracy and coherence to his answers was lacking. He ate normally, but obstinately refused all medicine, explaining his refusal by an absurdity. If he was addressed sternly or threatened, his smile became troubled, he had a worried look, like that of the malingerer who fears he has 'gone too far'; his answers became more correct, or his incoherence became hesitating as if more difficult to simulate. When he was alone, nothing of an abnormal nature was observed. As soon as a nurse approached his room however, incoherent phrases could be heard and he was afflicted with grimaces and tics. Finally, there was no evidence of organic trouble, except tuberculous symptoms."

One of this patient's verbal examinations, with answers, is quoted. A translation of this is omitted as it would be valueless, because the English could not show the play upon words, upon similar sounds, alliterations, etc., present in the original responses.

"This syndrome of false simulation may be described as follows: apparent mental integrity from a clinical standpoint; absence of major typical psychopathic symptoms; symptom of Ganser with responses sometimes correct, sometimes absurd; influenced by the presence of strangers (intimidation, aggravation of symptoms in the presence of the physician), refusal of medicine.

Nevertheless, there was no hesitation in our diagnosing the case, from the first examination, as dementia praecox, because (1) we suspected that the absurd answers were psychopathological and not simulated; (2) we found certain minor symptoms that had not been noticed by the hospital staff, but which were to us of primary importance as minor symptoms of dementia praecox. . . . It must be remembered, in considering such cases, that nothing is simulated with greater difficulty than incoherence. It is very seldom that the most arrant malingerer can imitate, in spite of his facility, the incoherence of dementia praecox —an incoherence, protracted, automatic, varied, in which certain associations preserve a certain logical trend in their illogicalness and seem, upon analysis, less unconnected than at first hearing. Generally the malingerer considers, makes an effort, repeats himself, and elaborates an incoherence that is monotonous and ridiculous; he is more pertinaciously absurd than the psychopath, he "attacks" to advantage; he is not spontaneously pleasant or mocking, like the catatonic; he does not play upon words, sounds, alliterations, etc., as was the case with our patient."

The examination, with answers, of a real malingerer who afterwards confessed, is quoted from Régis. Translation of this is also omitted as it would have little value in English and without comparison with the former examination. The difference shown in the two types of answers is most striking.

"The minor symptoms of dementia praecox observed in our patient were the following: his face was strained, haggard and truly pathological in expression; his eyes did not evade the doctor's. This is a symptom of the first importance. The patient had a smile, generally slightly satirical, naive, so automatic that it was hardly possible to consider it natural. He had tics, and made grimaces of an abnormal nature. He showed above all a marked power of mimicry of the doctor (*échomimie*) so immediate, spontaneous, and clever that it would have been necessary for him to have been an actor of genius to complete so perfectly by this symptom the *ensemble* of symptoms so characteristic of catatonia.

"It was noteworthy that the symptoms observed in favor of simulation were not at all specific. It is thus that the apparent integrity of the mental functions, the variability of the responses, sometimes correct, sometimes absurd, may be observed in incipient dementia praecox, which is characterized, sometimes for a long time, by a sort of strange confusion, a paradoxical disagreement of symptoms, without any real impairment of the intelligence. Agitation at the presence of strangers is a phenomenon not yet considered typical, but I have personally observed it and remarked upon it in cases of mental disease, particularly dementia praecox in soldiers. It is, in fact, most interesting to note that, in this psychosis, observation of the patient sometimes produces agitation in exactly the same way as it produces emotional inco-ordination in a timid nervous case. Finally, many of the insane refuse medicine purely instinctively, under the influence of a delusion, or for all sorts of causes which have nothing in common with the carefully considered reasons of the malingerer, who has good cause to be wary of the doctor.

Régis, E. Précis de psychiatrie. 5th ed.

The latest edition of this well-known textbook states that it would be impossible to eliminate from the army and navy psychical degenerates as well as phys-

ical degenerates. The mental state should be studied by the examining board at the time of enlistment and also during active service. A very common mental disease among officers is general paralysis. One may also observe traumatic and alcoholic psychoses, maniacal and melancholic states, and systematized delirium. Thus among soldiers we find all the psychopathic disorders, such as alcoholism, systematized delirium, maniacal and melancholic states, epilepsy, nostalgia, epidemic suicide, etc., but degeneracy prevails, with or without delirium. Such degeneracy is either simple (unstable, old and eccentric people, feebleminded, imbecile, and idiot) or congenital (neuropathological or psychopathical manifestations). Amongst abnormal soldiers, pathological fugue is most frequent (illegal absence or desertion). Consequently, when a soldier runs away it is necessary carefully to study his mental condition. In all cases the medical expert must observe, ponder, and wait before deciding upon responsibility or simulation.—R. F. Sheehan, U. S. naval med. bull. 8: 485, July 1914.

Soukhanoff, Serge. The Delusion of Being a Prisoner of War; Contribution to the Study of Mental Troubles Caused by Active Service (De la conviction déliriante d'être prisonnier de guerre) Annales méd.-psychologiques, 10th series, 6 : 549–57, 1914

The author gives a detailed description of two cases in the present war, who, for a time, suffered to such a degree from the delusion of having been made prisoner by the Germans that all their conduct, for the time being, was influenced by this mental state.

The first case was that of a young Esthonian soldier twenty-one years of age and of robust appearance. He had enlisted from a country town in a Russian regiment. He understood very little Russian, was of a simple-minded type, adapting himself with difficulty and with a good many mistakes and misunderstandings, to the service, and had had little experience outside country life. All these conditions combined to draw tremendously upon his reserve mental force, never very great. After several months' service he broke down mentally and was eventually sent to a hospital in Petrograd, where he found himself in the new and strange surroundings of a large city and still in a military atmosphere. He could speak just enough Russian to make it clear that he believed himself to be a prisoner in the hands of the Germans and that he feared cruel treatment. His pulse was accelerated and his whole attitude was one of fear and moroseness. A short time after he was admitted to this hospital, he had an attack lasting about an hour of intense mental excitement and motor agitation, to calm which he was put in a bath. After this fit, he became calmer and complained of headaches and great weakness, but his whole attitude of mind and expression had changed to one of good humor, smiles and a desire to know what had happened to him. He was given a journal printed in his own language to read, and an Esthonian pastor took him to a religious service, which he was able to follow. From that time on, his physical and mental states improved. He gave the exact impression of having been awakened from a horrible nightmare.

The author's opinion is that the hardships and other conditions of strain attendant upon active service combined to produce in this simple youth, of somewhat limited intelligence and of no experience outside of his home village, a state of mental unrest, exaggerated by his inability to understand the language of those about him, the mistakes he made, and the difficulties he found in adapting himself to the demands of military life. If he had been mentally normal, his robust physical condition would probably have served to counteract the effect of this mental disturbance until he succeeded in adapting himself to his new life. But the fact that he was psychopathic made the strain too great for proper physical counteraction and resulted in complete mental exhaustion which could only be thrown off by a fit of acute mental and physical agitation.

The second case was that of a young soldier, also an Esthonian and not conversant with the Russian language. When taken to the same hospital in Petrograd as the former case, he showed symptoms of intense fear accompanied by weeping and motor disturbances, made continual attempts to hide under his bedclothes, under the bed, and once succeeded in climbing a tree from which he was dislodged with great difficulty. Not being able to speak Russian, he spoke to no one, muttered to himself, and resisted strenuously all attempts on the part of others for examination, treatment or even personal care. Finally an Esthonian workman was found at the hospital who was instructed to question the patient. The latter showed great astonishment at hearing his native tongue and told the workman that he had been made a prisoner of war by the Germans, who were going to cut his throat. He had forgotten in what regiment he had enlisted, the date when he entered the service, and had lost all sense of time. After a month in hospital, he became calmer and did not keep so much to himself, sometimes smiled—in brief, began to awaken from his nightmare. He became willing to answer questions about himself, but could remember nothing about when his attack came upon him, except that it was after hearing that the Germans were near, at which news he became terrified. His recovery was so rapid that he was soon able to attend and follow a Lutheran service, from which he seemed to derive great satisfaction, and he finally became calm and, to all appearances, normal. This latter case had also lived before enlistment in a country village and was a simple-minded man, probably of limited intelligence. He had never had any previous mental trouble.

Lannois, M., and Chavanne, F. Total Deafness Caused by Shell Explosion (Des surdités totales par éclatement d'obus) Bull. de l'Acad. de méd., Paris, 73 : 105–08, Jan. 19, 1915

The authors divide the pathological conditions they have observed into three classes: (1) A kind of inhibition brought about by a too intense or too prolonged stimulation of the auditory nerve, resulting in paralysis through fatigue without external lesion. This form of deafness is usually of only a few days' duration. (2) Cerebral disturbance may be the real cause of the deafness, the ear only apparently so. (3) The condition may be one of hystero-traumatism, resulting in deafness, deaf-mutism or deaf-mutism accompanied by blindness. This third class is relatively infrequent and found usually in soldiers who have been buried by the explosion. These various conditions may exist singly or in combination. They may also be coincident with real labyrinthine shock.

A discussion of labyrinthine disturbance produced by various injuries or pathological organic conditions follows. This condition of the ear may be caused also by concussion alone, sometimes by a single loud explosion nearby, sometimes by a series of vibratory shocks caused by detonations. Among the symptoms are loss of consciousness, all forms of vertigo, buzzing in the ears, and deafness. Vomiting and nausea are rarely found. The various conditions of vertigo are usually of short duration, but the ear-noises last longer and sometimes are so pronounced as to render distinct hearing impossible. The deafness, often complete at first, frequently remains so pronounced that the patient can hear only shouts. It may affect one ear only or both, but in the latter case the two ears are rarely affected to the same degree. The most frequent symptom observed has been limitation of the auditory field. Sometimes sounds have a different tone from that which properly belongs to them; one case of severe hyperacusis has been noted. Tests of nystagmus have given very varied results. Simulation may be detected by ordinary methods.

The prognosis of deafness due to labyrinthine shock must of necessity be attended with many reservations. The use of instrumental aids to hearing should be avoided if possible. Certain devices for protecting the ear against

labyrinthine shock have been recommended. The only one practicable field use is the cotton stopper (*tampon d'ouate*).

Ravaut, Paul. Internal Hemorrhage Produced by Shell Explosi (Les hemorragies internes produites par le choc vibratoire l'explosif) Presse méd., Paris, 23 : 114, April 8, 1915

The article opens with the summary of a case observed by Sencert, of t Société de Chirurgie. A soldier died a few hours after a huge shell had explod at the distance of a meter. His face was pale, the nose had a pinched appearan his eyes were hollow and his breathing stertorous. He showed no exter wound. The autopsy revealed both lungs ruptured, the pleura congested wi blood, and the stomach containing blood and mucous from numerous ruptur

The author then gives the history of a case observed by himself. A sold suffered paraplegia, with no external injury, following the explosion of a sh The spinal fluid showed blood and hemorrhage of the kidneys was present.

He draws from these cases the conclusion that the causes of shell shock a organic and not psychic in nature.

Grasset, Joseph. Psychoneuroses of the War. Presse méd., Pari 23: 105–08, 425, April 1 and Oct. 28, 1915

Professor Grasset, of the Department of War Neurology at Montpellier, sa that 193 nervous cases were admitted to the department during the first thr months following its establishment. Among these, 59 were suffering from ps choneuroses, 16 from associated functional and organic disease, and 4 were se to the department for mental disorders. Functional symptoms were prese in 42 per cent of the cases admitted.

Grasset divides the psychoneuroses into three groups—the "sensitivo-mot psychoneuroses," the "sensorio-motor psychoneuroses," and the "emotion and mental psychoneuroses." The classification is based upon the predomin ting features of each group, but this does not mean that the symptomatolo of each group is exclusive of that of the two others.

The sensitivo-motor group includes cases presenting symptoms of traumat hysteria, functional hemiplegia, hemianaesthesia, contractures, narrowing the visual fields, amblyopia without changes in the fundus, and a circulato condition resembling Graves' disease and characterized by palpitation, tach cardia, perspiration, tremor of the hands and pulsation of the arteries. A respi atory type is sometimes seen, characterized by difficulty in taking a deep breat rapidity of the respirations, or paroxysms of dyspnoea. Aphonia due to paral sis of the vocal cords is another type of psychoneurosis belonging to this grou A digestive form manifesting itself in dilation of the stomach, constipation, etc is sometimes found. Hystero-genetic zones are not infrequent, as well as anae thesia of the pharynx and cornea, speech disturbances, emotional instabilit physical exhaustion and lack of power of concentration.

The sensorio-motor psychoneuroses include cases in which vision, hearin and speech are disturbed, usually as the result of shell shock. Such cases a very rare in civil life, probably because few of the shocks of normal life are seve enough to produce them. Vision usually returns first, then hearing, and finall speech. Hearing usually returns gradually in one ear and then in the othe The return of speech is often preceded by a period of aphonia, dysarthria, stam mering, or a form of abbreviated speech in which articles and unnecessary word are omitted.

The mental and emotional psychoneuroses form a group characterized b predominant mental and emotional symptoms, such as insomnia, change personality and accentuated emotional instability. This emotional state ma be constant or intermittent.

The writer next discusses the etiology of the psychoneuroses of war. He considers the chief causes to be shock rather than wounds, and physical exhaustion and overstrain. Often inheritance of neurotic or psychopathic characteristics is the basal cause of these disturbances.

In a second paper (Presse méd. 23:425, Oct. 28, 1915) Professor Grasset takes up in detail the treatment of war neuroses. He says that the neurologist is not concerned with the malingerer, and fortunately, real malingering is very infrequent. There is, however, a class of patients always ready to exaggerate symptoms, to remain ill as long as possible, and to assume an attitude of mind injurious to themselves and exerting an unhealthful influence upon other patients. The writer advocates three forms of treatment: 1. The ordinary form of persuasion; 2. Isolation with severe discipline; 3. Military re-education.

In conclusion, Professor Grasset discusses the question of return to duty. Those who recover rapidly may be sent back to their regiments immediately, or after a brief furlough. Some, who are not able to return to the front, can work at a trade assisting directly in connection with the war. There is a certain class of patients, however, who resist all therapeutic measures and cannot be cured for military or any other purposes. Yet they cannot be kept indefinitely in military hospitals occupying accommodations in the place of others who need them more. Professor Grasset suggests that, after these patients have been treated a year with no satisfactory results, they be discharged with a reasonable gratuity. He does not consider this an ideal solution of the problem, but only a suggestion for consideration by the War Department.

Heitz, Jean. Five Cases of Organic Paraplegia Without External Injury Following Shell Explosions (Cinq cas de paraplégie organique consécutive à des éclatements d'obus sans plaie extérieure) Paris méd. 5 : 78–85, May 1915

The article consists of detailed histories of five cases of paraplegia without external injury observed by the writer during his service with the Fifteenth field hospital of the Colonial Corps. The histories are followed by full discussion of the clinical picture, progress, prognosis, diagnosis, pathology and therapy of such cases.

Sollier, Paul. War neuroses. Bull. de l'Acad., de méd., Paris, 73: 682–84, June 8, 1915

Sollier cites statistics from eight hospital centers which show that in about 16.2 per cent of 2,435 wounded soldiers there was evidence of a traumatic neurosis, that is, a total of 395 cases. Excluding those with neuropathic antecedents, only 250 cases are known of a neurosis developing under the stress of war.—J. A. M. A. 65:365, July 24, 1915.

Mairet, A., Piéron, H., and Mme. Bouzansky. General Shock from Explosions (Des variations du "syndrome commotionnel," suivant la nature des traumatismes, et de son unité) Bull. de l'acad. de méd., Paris, 73: 690-700, June 15, 1915

Mairet discusses the various elements of the shock from explosion of a shell nearby, without direct injury, as he has encountered it in twenty-one cases. In this "global commotional syndrome," as he calls it, we recognize features of the various disturbances that have been signaled for years as following severe accidents or violent emotions, railroad, factory or mine accidents, the Messina earthquake, etc., and observed in the Russo-Japanese war. The various manifestations are innumerable and widely diverse, but there is a unity in the syndrome, and this is the general perturbation, the commotion.—J. A. M. A. 65: 463, July 31, 1915.

Mairet, A., Piéron, H., and Mme. Bouzansky. General Shock; its Pathogenesis and Evolution (Le "syndrome commotionnel" au point de vue du mécanisme pathogénique et de l'évolution) Bull. de l'Acad. de méd., Paris, 73: 710–16, June 22, 1915

The article is supplementary to "General Shock from Explosions," etc., in which the authors defined the nature of general shock as a syndrome indicating complex and acute cerebral disturbance, manifesting itself in various symptoms. The present article discusses the causes of this disturbance and its treatment.

What are the causes of shock of the central nervous system? Sometimes there is a traumatism of the brain or spinal cord. In other cases a bodily injury may indirectly affect the brain through irritation of the peripheral or afferent nerves, or a condition of disturbance may be produced by a purely emotional or mental shock coincident with no somatic traumatism of any kind. Finally there may be shock from aerial concussion (*vent d'obus*) which is probably attended also by mental shock from fear.

Aerial concussion presents the purest and most complete syndrome of general shock. The authors believe that, although this form of disturbance may appear to be purely functional, such is the case only because the underlying organic changes are unknown. They say, "To call nervous troubles purely functional does not necessarily mean looking upon them as *sine materia*, nor even as mental disturbances of the nature of pithiatism; there may easily be present injuries, more or less acute, of the sensory-motor centers as well as of the nerves of association."

In addition to these organic injuries, the cerebral functions are greatly disturbed; defective metabolism produces rapid and acute exhaustion, loss of memory, fainting attacks and toxic states. These same conditions may also be produced by exaggerated emotional states, so the underlying causal factor is still doubtful.

Individuals are affected very differently by the same conditions and emotions which produce, in some cases, general shock, and the duration of symptoms varies greatly. In those who are seriously affected, an hereditary predisposition to mental or nervous trouble may be present, but this is not always the case. A table follows, giving the proportion in a selected number of cases, of those apparently predisposed to those whose family history, so far as could be ascertained, showed no taint.

Recovery of cases varies greatly, both as to type and length of time. In general, it is sudden, usually following surprise or some state of acute physical or emotional agitation. However, there are many patients in which the return to the normal is slow, and progress may be noted week by week. The authors warn all treating such cases against the serious danger of emphasizing external symptoms with the result of disregarding the real source of the trouble—acute internal cerebral disturbance—and against concluding that, upon the disappearance of these superficial manifestations, a complete cure has been wrought.

Ravaut, Paul. Study of Certain Nervous Symptoms Produced by "Shell Concussion" (Étude sur quelques manifestations nerveuses déterminées par le "vent de l'explosif") Bull. de l'Acad. de méd., Paris, 73: 717–20, June 22, 1915

In cases of "shell concussion" no exterior wound exists, and the nervous system is injured by the "atmospheric rebound"; the vibrations caused by the bursting of the shell transmit to the organism of the sufferer the aerial shock caused by the explosion. "The pathogenesis of these symptoms seems at first most simple and many writers see only in these conditions manifestations of hystero-traumatism. I believe, on the contrary, that organic lesions are often

the cause, as has been indicated to me by examination of the spinal fluid."* Four cases of shell shock are described, all of which showed blood or increase of albumen in the spinal fluid. The author's theory is that the explosion produces hemorrhages, more or less profuse, affecting the central nervous system and various organs of the body. These hemorrhages are sometimes of such a minute nature as to be almost imperceptible and disappear after a few days. At other times, autopsies have revealed hemorrhage of the lungs with rupture, of the stomach, and of the kidneys. This accounts for cases of instantaneous death in battle with no external wound.

Chavigny, Paul. Psychiatry and Legal Medicine in the Army (Psychiatrie et médecine légale aux armées) Paris méd. 5: 184–89, July 17, 1915

In opening his article Chavigny emphasizes the great need of including among the special medical services of an army those of psychiatry and legal medicine. He comments upon the difficulty encountered at first in France in making the government, the military authorities, and even the physicians who were not alienists realize the necessity for such services, especially that of psychiatry; the tendency was to consider psychiatry a mere adjunct of doubtful need. Those who were interested in securing such a service for the French army quoted results of its lack during the Russo-Japanese war, but even this argument seemed powerless to influence opinion. Finally, through the efforts of a few alienists in civil practice, working with those of the army medical corps who were interested in psychiatry, a psychiatric service was established as part of the army medical service.

Since the beginning of the present war, a dire and increasing need for this service has shown itself, and there is now no question that it renders invaluable service, not only to the state, but also to the army, and to the individuals composing it.

In the present war, there has been a steady evolution in type of mental troubles that may be described in three phases:

The first was concomitant with the periods of mobilization and of the liquor problem before public authorities had taken the stringent measures inaugurated later for control of intoxicants. The mental cases of this period were mostly those of alcoholic excess. Unfortunately the pension commissioners at this time failed to realize the purely temporary nature of the symptoms attendant upon these cases, who, consequently were usually invalided, with the unfortunate result that a premium was placed upon over-indulgence.

The second phase belonged to that of the fortunate, if tardy, prohibition of intoxicating liquors. The type of case cited above disappeared together with its cause. This was the period of devastating warfare centered about the Marne and the number of mental cases was very small. This fact led certain authorities (Ballet) to arrive at rather premature conclusions as to the proportion of such cases in the French army.

The third phase was inaugurated by trench warfare. The living conditions of the soldier were radically changed. Nevertheless, during the early part of this period, mental symptoms were comparatively rare. Many cases of exaggerated emotional states were observed, but few that could be properly called mental in origin. As soon, however, as trench warfare began to be marked by the use of heavy artillery, psychic symptoms began to appear with increasing frequency. Some of these presented totally unprecedented symptoms, and from this moment the establishment of psychiatric units upon each route of military evacuation became indispensable. In spite, however, of the great

*See Ravaut, Paul. Internal Hemorrhage, etc. Presse méd., Paris, 23: 114, April 8, 1915, and p. 92 of this book.

increase at this time of mental troubles, Chavigny does not consider the proportion alarming.

Among the principal causes of mental breakdown are given the extreme fatigue of the long campaign, and unfortunate errors in enlisting the unfit through failure to recognize psychopathic and neurotic symptoms.

The writer next emphasizes the great importance of prompt and specific treatment at a not too great distance from the front for cases of shell-shock, most of whom, he says, under such circumstances, recover in from twenty-four to forty-eight hours. This necessitates distinct psychiatric units. Such a service prevents also, through correct diagnosis, evacuation of purely temporary cases to the interior for a lengthy stay which may result in permanent impairment. Finally, a most important function to be performed by a psychiatric service is the detection of true malingerers as distinguished from those soldiers who, because of psychopathic or neurotic conditions, may show almost identical indications and yet not be guilty of simulation.

Chavigny then emphasizes the necessity, in military psychiatrists, of the "open mind." It is absolutely essential that they depart somewhat from formulas and principles to which they have heretofore been accustomed, for all the general conditions of life are now undergoing a vital transformation. The reactions of mental cases are not at all those of times of peace and therapeutic methods must adapt themselves to the changed circumstances.

"Without doubt certain individuals who, in times of peace, were unadaptable to conditions, not only in a civil capacity but also in a military, have now become excellent soldiers—brave fighters, who excel in the trenches through those very traits which made them unadaptable to the every-day conditions of times of peace.

But on the contrary, there are certain other individuals of limited intelligence, who were in times of peace good, dutiful soldiers, obedient, and easily disciplined, but, who under the strain of active service, often develop attacks of insanity.

"The psychiatric units should be established near the front so as to be close to the army and to the line of evacuation in order to act as filters, receiving each day from the evacuation train ill or doubtful cases of which notification has been previously sent from the front. They should receive also those sorted out for treatment en route, of whose coming notice has not been sent beforehand, as an examination was necessary.

"The psychiatric service of the army should take part also in court-martial examinations. No matter how rapid and severe the decisions of military discipline should be, certain psychiatric tests are none the less necessary, for the sentence of a madman has no value, either as a disciplinary measure or as an example to others. An expert alienist could assuredly so conduct himself at a court-martial proceedings as to render impossible the least suspicion of relaxation of discipline. It is also only just that he should participate in order to make impossible mistakes that might result in flagrant abuse.

"To perform these various functions the psychiatric units could be established in no more favorable place than the distributing stations (*gares regulatrices*). Here they would be on the necessary route of all evacuation; a good, permanent hospital in a distributing station could accommodate for observation or treatment during several days a certain number of cases. A departmental asylum, also situated as near as possible to the distributing station, could be used for the reception of cases requiring confinement. Other cases transportable without danger would follow the regular course of evacuation to one of the *régions* asylums where redistribution of the army's sick takes place. There should be at least two psychiatrists at every psychiatric base, so that one may be absent, when need arises, to attend court-martial proceedings at the front, and that the other may remain at the base to supervise the work there.

The writer concludes his article with a discussion of the value of a special medico-legal service for the army.

Chavigny, Paul. Psychiatry in the Army (Psychiatrie aux armées) Paris méd. 5: 415–23, Oct. 23, 1915

The author opens his article with a discussion of hereditary and temperamental predisposition to mental collapse. Although, in most of the cases of mental and nervous trouble observed by him, such a taint was traceable, he found that external exciting causes predominated in causing mental breakdowns. Most of the patients with hereditary predisposition could probably have lived their whole lives without mental impairment, had conditions been those of peace. A violent emotional shock, such as the explosion of large shells, was given by almost all cases as the initial cause of their trouble. Mental contagion also assuredly plays a part in these states, as does any condition of hypersensibility or hypersuggestibility.

Mental defectives, both of the tractable and intractable type, make poor soldiers and worse fighters. In times of peace, if they are obedient and diligent, they may serve certain purposes in army life, but in active service they are more dangerous to their comrades than to the enemy.

The psychopathic are often equally capable of fine conduct and of heroic deeds as of great mistakes, but they cannot render to the army, day after day, the calm, sensible service so necessary in time of war. Also, men of this type are often incapable of self control in various kinds of excesses, and are the slaves of certain nervous affections, which make their presence in the army most undesirable.

Melancholiacs were numerous and their states of mind were always characterized by hyperemotionalism and terror of fighting. Cases of general paralysis always exhibited states of maniacal excitement. This symptom seemed to occur more frequently in such cases than in times of peace.

Cases of delirium showed a remarkable uniformity of theme—the delirium of war conditions. This was evident in civil as well as military cases, and was found even in women's wards. Some of its forms were fear of officers, of court-martial, of the enemy; inventors had made discoveries that would guarantee victory; the paranoiac had unearthed a plot to poison him through the shells he had to handle, etc.

The writer had no opportunity to observe cases of neurasthenia and psychasthenia, as these were sent directly to the interior.

Oneirism, in which obsessive ideas were revealed, was found in its purest clinical form. This type is usually nocturnal, but the patients revealed the nature of their thoughts by their attitudes or by words that they let drop.

Confusional psychoses were the most frequently found of all the psychoses of military life. This is natural as they are of the type that would logically be produced by conditions at the front. They presented a syndrome of exhaustion, they were often coexistent with gastro-intestinal troubles so frequent in the trenches, and which, in the author's opinion, have a role in the pathogenesis of mental impairment. The symptoms were generally of such a well known and frequently found type that it would be useless to describe them. Cases usually recovered rapidly and for that reason should be treated at the front and not sent uselessly to an institution in the interior. One form of confusional psychoses has impressed Chavigny as being especially interesting, so he describes it in full, giving case histories. This psychosis he has called *aprosexie*, which may be defined as inability to fix the attention. He describes a case of this kind as comparable in appearance to a bird, incessantly turning its eyes and head towards all sounds and movements in the vicinity, but utterly devoid of any reaction of the intelligence. The lack, in the case of the bird, of all facial expression, makes the comparison all the more apt, for these patients have an absolutely blank countenance. The writer attributes the total incapacity for attention to a state of absolute amnesia produced by the accident. Sometimes aprosexia is accompanied by mutism, deafness, and various types of paralysis. It generally is of

short duration. Aprosexia may be confused in diagnosis with simple mental confusion, melancholia, and the intellectual apathy of the mental defective. Symptoms characteristic of aprosexia and differing from those of the above mental troubles are described.

Certain psychoneuroses and hysteriform manifestations of war are next discussed. The writer says: "The state we have just described under the name aprosexia is only the complete psychic manifestation of the series of states we are about to describe." These are sensory affections such as mutism, stuttering, and hysterical deafness and blindness; motor affections, such as paralyses, tremor, tics, and choreiform movements; anaesthesias and hyperaesthesias; alimentary troubles; amnesia; and convulsions. The clinical symptoms of the above are described in some detail. No illustrative cases are cited.

Sicard, J. A. Simulation of Deaf-mutism (Simulateurs sourds-muets) Paris méd. 5: 423–28, Oct. 23, 1915

The author introduces his subject by quoting the opinions of various authorities upon malingerers and malingering. Pierre Marie divides malingerers into three classes: first, pure malingerers who invent their symptoms; second, unconscious malingerers who are neuropathic or psychopathic and so hypersuggestible and subject to motor affections which have no resemblance to the motor troubles produced by organic lesions; third, exaggerators, who add motor affections to those caused by an actual injury and sometimes even a wound of the nerve trunks.

Dupré believes that certain subjects pass rapidly from suggestion to simulation, and inversely. The psychopathic process generally is as follows: shock, emotion, suggestion, exaggeration, malingering, claiming of indemnity.

Ballet compares the malingerer to the liar who repeats the untruth many times to serve a purpose in which he is interested, and finally ends by believing his own lie. He advises prompt and strenuous therapeutic methods.

Babinski says: "What we should be concerned with is not determining the degree of sincerity of the patient so afflicted, but as rapid a cure as possible of the disorders. Very often, if energetic action, and the proper amount of authority are exerted upon these psychopathic cases of simulation, more or less conscious, results can be very quickly obtained, even when the symptoms are of long standing."

Déjerine believes that malingering is less frequent than is supposed. He thinks many motor affections are due to over-emotional states, and that many so afflicted are neurasthenic.

The writer states that, during the observation of many cases of war psychoneuroses, he has found, together with the actual conditions, a certain amount of malingering. The wounded are practically free from psychopathic or neuropathic symptoms. It is those who are only slightly wounded, or, even more frequently, those who are suffering from shock with no external injury, who, through latent emotionalism, and an over-acute memory of past exciting events, to which is often added a realization of family responsibilities in the future, are subject to psychoneuroses. The psychoneurosis establishes the emotional reaction, probably more often unconsciously than consciously, and the patient is on the road to simulation.

The writer believes that there are no actual "unconscious malingerers." Malingering exhibits itself, under two forms: creative malingering (*simulateurs de création*) and acquired malingering (*simulateurs de fixation*). The former type tries to assume, through the aid of imagination alone, attitudes and symptoms which he thinks will most successfully attract attention or provoke pity. The second type has been, at the outset, really ill, really neurotic; but, later, in order to attain some end, instead of recovering naturally and in the same way as his comrades who were similarly afflicted, prefers to exploit and perpetuate his

malady. He may even simplify his symptoms, as, for instance, regaining the hearing but remaining mute. In short, he "crystallizes" his neurosis. The creating malingerer is easy to detect and convict, for he is playing a part constructed out of nothing but his own imagination, a part for which he is not at all prepared. The *simulateur de fixation*, on the contrary, is well practised, albeit involuntarily, because his own experience has furnished him with the most realistic acquaintance with his part. "The *simulateur de création* improvises; the *simulateur de fixation* repeats."

Sicard describes in detail the plight of the true malingerer, usually a most pitiable and often an agonizing one, through constant fear and strained attention upon one thing. Physical and mental symptoms actually result from the retention of this state, so that, when confession comes, it usually brings great mental relief and return of normal bodily states.

"All cases without any controllable objective trouble of the nerve centers or of the organs of hearing or phonation, and without a characteristic psychosis, who remain three or four months in a state of absolute deaf-mutism, may be considered, almost without exception, malingerers. Among seventeen cases of deaf-mutism, observed and followed up in our service during these three last months, we had proof of malingering in nine subjects.

In six cases, the deception was detected by the "mild method" (*méthode douce*). This consists in appealing to the pride of the patients, avoiding all suggestion of reproach, all criticism in public, and, above all, any accusation of malingering before a third party. We take them aside, and make them realize the unworthiness of their conduct. We appeal to their patriotism and prescribe an electric treatment to serve as pretext for a rapid cure. We have had, from some at least, expressions of real regret and remorse for their actions. These men were returned to the army. Two of them have written to us since and are giving good service at the front.

"But other malingerers, those of *fixation* as a whole, remain inflexible. They exhibit an impervious obstinacy. One feels that all persuasion is useless, that every appeal to their better nature, to their moral sense, is vain. There is no worse deafness than that which is resolved not to hear. The only resource is threat, (*la manière forte*) of court-martial, or at least of appearance before court-martial.

The author describes in a note an interesting case of malingering in which a soldier terminated a period of ten months without a spoken word by a well-acted seizure in which speech and hearing supposedly returned to him. He confessed his trick later in a letter, but promised to atone for it by his future conduct—a promise which he is keeping.

A series of approved tests for detecting simulated deaf-mutism is given. These tests are, needless to say, always preceded by a thorough examination of the subject's ears to make sure that no organic trouble is present. Also the spinal fluid is always tested. Usually the subject objects strenuously to this procedure, as well as to any induced form of anaesthesia depriving him of the control of the vocal organs.

The series of tests follows:

1st day—While the delinquent is responding as usual in writing to our questions, an attendant suddenly fires a pistol at a distance of about two metres behind him. At the shot, the hand holding the pencil or pen naturally jerks and the result is evident in the irregularity of the letters formed at the time.

2d day—A pretense is made of testing the circulation. One attendant feels the pulse, while another watches the needle of the oscillometer of Pachon which registers the pulsations of the opposite side. Then a very loud and resounding noise, such as is made by the fall of a heavy weight, is produced or the pistol is fired again, whereupon the changes in the mumber of pulsations and in the oscillations of the needle are noted.

3d day—The subject is made to inhale sulphur or nitric fumes and the resulting cough is distinct and sonorous.

4th day—In front of the subject, who has been forewarned, a pistol is fired. The sudden winking, noted by an attendant at close range, occurs simultaneously with the perception of the noise. One has only to make this test upon himself to realize that it is impossible, under the conditions, to control this movement of the eyelids, even when the noise is anticipated.

After the malingerers were made to realize the significance of the facts established by these tests, they were isolated in the hospital. After a few days of this isolation, they usually spoke, heard, and confessed. Special emphasis is laid upon the necessity, in order to provoke confession, of assuring the delinquent that he will suffer no punishment as a result.

"As practical conclusions, disregarding pure psychoses and psychopathic states . . . I think that in a central neurological service there should be three groups: first, cases of suspected malingering and exaggeration by those who have a purpose to serve; second, cases of true psychoneuroses; third, cases of organic nervous affections without neurosis. Subjects against whom flagrant deception cannot be proved, but who are charged with many delinquencies, should be subjected to a régime of special inspection, as should also the exaggerators and neuropaths who resist therapeutic measures. They should be confined in a hospital annex in military isolation, and should be permitted no leave of absence, usually the privilege of convalescence, should not be allowed to go anywhere, nor to receive any calls, should be forbidden to read, to write, to smoke and to enjoy themselves with other patients. They should have a separate yard where they may walk alone. These severe measures will come very rapidly to the ears of those interested, and certainly tend to diminish notably the number of exaggerators and malingerers. Let it be well understood, however, that this severe form of treatment is by no means to be applied to those who have been severely wounded or who are really deserving of invalidation. Cases of true psychoneuroses should be, on the contrary, treated absolutely without isolation. They should be grouped clinically and brought into direct contact with each other. Some of them who are well-intentioned can even exert a helpful and educative influence upon those of their comrades less susceptible to therapeutic measures. To those who make an effort to be cured and who have already been benefited by physical and mental reeducation, the prospect of convalescent leave is an undeniable stimulant. According to approved routine, after some recuperation, convalescence in the family or under proper sanitary supervision may be allowed. It is very true that complete cures of psychoneurosis are unfortunately too rare, but, as a rule, transfer to auxiliary services is possible. Invalidation, and particularly pensioning, should in these cases be exceptional."

Sollier, Paul, and Chartier, M. Shell Shock and its Effects upon the Nervous System (La commotion par explosifs et ses conséquences sur le système nerveux) Paris méd. 5: 406–14, Oct. 23, 1915

The article is based upon the observation and treatment of 109 cases from field hospitals near the front in France and the neurological base at Lyons.

The authors first discuss in some detail the physical phenomena of the explosion of a shell.

They next take up the clinical manifestations of shell shock. The most frequent of these are hemorrhage, loss of consciousness and other psychopathic states, epileptiform and hysterical attacks, sensory disturbances, sensory-motor affections, anaesthesia and hyperaesthesia, paralyses, abnormal reflexes, affec-

tions of the sphincters and organs of sex, and trophic manifestations. After a brief discussion of the diagnosis of shell shock and its difficulties, clinical analogies are commented upon. Among these are "caisson disease," stroke by lightning and other forms of electric shock, and certain forms of hysteria. The writers believe that the pathology of shell shock does not differ, except as to cause, from that of these well known forms of psychoneurotic disturbance.

The mechanism of the various symptoms is described in detail. A man who has been the victim of shell shock has been in one of three "zones"—the zone of "gas projection," the zone of violent atmospheric disturbance, or the zone of atmospheric vibration. In the first zone, the individual suffers a blow from the displaced air of such violence that it is comparable to a blow from a solid projected with great force. In this zone accidents usually result in death and are due to a purely organic cause—fractures, dislocations, cerebral and medullary lesions, and injuries to organs of the body. In the second zone, two successive types of phenomena are produced: first, a compression due to the increase in atmospheric density, of little importance in its physiological effects; and, secondly, a violent atmospheric expansion (*décompression*) caused by the vacuum produced by the explosion. Certain shock conditions, characterized as gas embolism, seem to be attributable to this sudden atmospheric expansion. Judging by analogous cases of caisson disease, we may classify here also cases of hemorrhage, rupture of the ear drum, labyrinthine shock of the ear, retinal hemorrhage with choroid rupture, and organic paraplegias or hemiplegias probably due to hemorrhage of the spinal cord or its envelope. Here may also be classified certain forms of paraplegia without organic manifestations, strictly speaking, which are accompanied by sphincter, trophic and vaso-motor disturbances, and in which paralysis of motion is much more accentuated than paralysis of sensation.

In the third zone the organism is subjected to rapidly decreasing vibrations, compared by specialists to electric vibrations. Cases of this kind are comparable to those of stroke by lightning and electric shock. Very little is known of the mechanism of disturbances produced by electric shock; in some cases there is inhibition, in others a disturbance in the molecular structure of the nerve cells. May not paralysis, contracture, tremor, anaesthesia, etc., be due to inhibition, or to exhaustion caused by excessive stimulation of the sense organs or nervous system, or to a molecular disturbance of some kind produced by vibrations in the equilibrium of the nerve cells?

"In cases of shell shock, then, are present from the outset nervous disturbances of a purely functional aspect, to which may, or may not be added organic lesions generally temporary. At the end of a certain time, the same symptoms are formed that belong, in the large majority of cases, to hysteria." The authors believe that this hysterical phase is not a distinct element, nor a superimposed condition, but that there exists in these cases a scale of operating factors, physical, mechanical, organic, and psychic, all tending to produce a single clinical result. In the hysteria of shell shock, physical causes and conditions predominate; in ordinary hystero-traumatism, psychological and physical phenomena are on almost the same plane; and in ordinary hysteria, the psychological element tends to assume a dominating importance.

As to prognosis, it must always be attended with great reservation and circumspection.

"As to treatment, as soon as the organic disturbances disappear, the problem is simply one of a traumatic neurosis lacking the psychic element."

"The authors draw the following conclusions:

1. The kind of explosion determines the number and variation of its results.

2. The clinical manifestations resulting do not present a definite character, for they are found under other conditions. There is, therefore, no syndrome peculiar to shell shock alone.

3. Some of these manifestations appear to be due to distinctly organic disturbances, others to dynamic disturbances of the central nervous system. The former seem to be caused by the shock and the violent atmospheric expansion; the second, by atmospheric vibration.

4. Between the clinical syndromes of a purely organic nature and the functional manifestations exists a series of transitional forms, which fact leads to the conclusion that the central nervous system is subject, with a different degree of intensity, to both types of symptoms.

5. The nervous symptoms of the functional type are found most often, from the somatic point of view, with the characteristics usually attributed to hysteria, as described by Charcot.

6. These symptoms exhibit hysteria in its most spontaneous and elementary form, lacking absolutely the psychological complex that ordinarily complicates and colors it.

7. They prove that hysteria can be of a purely physical origin, without the interpolation of any psychological process whatever, conscious or subconscious.

8. Psychological theories of hysteria are, therefore, insufficient for explaining all cases. Only a physiological interpretation is applicable to hysteria from a physical cause as to hysteria from a mental or moral cause."

Castex, André. War Deafness (Surdités de guerre) Bull. de l'Acad. de méd., Paris, 74: 547–48, Nov. 16, 1915

The explosion of the large projectiles of war can produce several kinds of deafness. This condition is usually caused by a shell that bursts in the vicinity, tears up the ground, blows the man up for the distance of several metres, and then buries him under a mass of earth. Sometimes, also, the din of battle alone is enough to make the combatant totally deaf.

As a whole, injuries of the ear caused by war fall into two principal classes: (1) rupture of the drum; (2) labyrinthine shock. Rupture of the drum is produced only when the projectile (bullet or shrapnel) strikes the temporal or mastoid region, or when the shell explodes with little concussion and so causes only a slight disturbance. Labyrinthine shock occurs when a very large shell blows up the trench and casts the men into the air. It is often coincident with concussion of the brain. Here prognosis as to the hearing is very grave. The deafness is aggravated in proportion as the healing tissues constrict the delicate mechanism of the internal ear. The forms of war deafness caused by labyrinthine shock are much more serious than those caused by labor accidents. In fact, the causal disturbance is much more acute. It has been necessary to invalid many soldiers suffering from labyrinthine shock. The prognosis for rupture of the drum is less unfavorable.

Lannois, M., and Chavanne, F. Prognosis of War Deafness; from a Study of 1,000 Cases (Le pronostic des surdités de guerre; d'après 1,000 cas) Bull. de l'Acad. de méd., Paris, 74 : 781–86, Dec. 21, 1915

The article gives the results of observations made on 1,000 cases during one year at the base hospital for oto-rhino-laryngological cases, Région No. 14. With the exception of a very few patients who were evacuated, the study of these cases was continued until they were returned to the army, to the auxiliary corps, or invalided. They were classified for study into four groups: (1) War deafness in cases with auricular lesions; (2) War deafness in cases in whom the mechanism of hearing was uninjured; (3) War deafness or deaf-mutism caused by nerve trauma; (4) War deafness caused by direct cranial injury. This abstract will deal with classes 2 and 3 only.

Cases of war deafness whose auditory mechanism was uninjured suffered from labyrinthine shock. This was usually caused by a simple disturbance and not by a definite lesion. In 262 cases of pure labyrinthine shock, there were actually only 5 per cent whose deafness was almost absolute and who seemed incurable. Most of those under treatment were returned to active service. They will probably always suffer from a slight diminution of auditory range, but will not be really deaf any more truly than those who acquire rheumatism from the dampness of the trenches will be actual cripples.

The cure of labyrinthine shock is effected more or less rapidly. Those with rupture of the drum show the highest percentage of quick cures. Cases with rupture of the drum followed by acute purulent medial inflammation show the next largest number. Cases of pure labyrinthine shock without apparent injury are the most stubborn. Statistics show 24 per cent of cures in one month, 22 per cent in two months, 19 per cent in three months, and 12 per cent in four months, with the remaining cases varying between five and nine months. It is among these cases of late cure that malingerers appear. Very frequently they are not malingerers from the outset; they were actually made deaf by shock, but they intentionally refuse to acknowledge the return of hearing. The authors warn emphatically against the careless use of such terms as "incurable deafness," "absolute deafness," and like phrases on the signs, tickets of admission, etc., of hospitals. Such phrases not only serve as suggestions to malingerers, but they make a deep impression upon the subconscious states of patients suffering from nervous or mental troubles. "The proportion of malingerers is quite large. We found a large number among those who were sent to us to be examined for pensions or invaliding. Among cases of labyrinthine shock there are without doubt more cases of malingering than of incurable deafness; there were 11 per cent in our 262 cases of pure labyrinthine shock.

"We have not found the infallible clinical symptom making possible from the outset the prognosis of the final evolution and duration of deafness from labyrinthine shock; it is by no means necessary, however, to decide too hastily in the early stages, for, quite frequently, labyrinthine shock is exaggerated by a certain amount of cerebral disturbance. As we have stated, the diminution of the auditory range is an unfavorable symptom in prognosis. It was interesting to note that in all our cases of incurable deafness both ears were affected." The study of nystagmus gave no trustworthy results.

Cases of deafness or deaf-mutism caused by nerve trauma were all cured, more or less rapidly according to the condition of the wounded patient. The cure was quick if he had been placed in competent hands; if, on the contrary, he had been bandied about from base to base, with no one to control him, he would have become rebellious and obtuse to all suggestion. Of thirty-two cases of deaf-mutism, fifteen were completely cured by a single sitting; in the other cases, speech returned first, hearing more slowly.

Dejerine, J., and Gauckler, E. Isolation and Psychotherapy in Treatment of Functional Disturbances of the Nervous System Among Troops. Presse méd., Paris, 23: 521-22, Dec. 30, 1915

Dejerine and Gauckler warn of the necessity for guarding against the development of functional disturbances in the wounded either from inertia, overlong immobilization or simulation. Those with functional disturbances should not be sent back to the home zone. They emphasize the importance of recognizing the functional nature from the start and giving proper treatment by psychotherapy, and graduated motor re-education, under strict discipline.—J. A. M. A. 66: 462, Feb. 5, 1916

Crouzon, O. Temporary Blindness Caused by Explosion of a Shell Close at Hand (Cécité temporaire provoquée par l'éclatement d'obus à proximité) Bull. et mém. Soc. méd. Hôp. de Paris 39: 57-59, 1915

A record of three cases in soldiers. The sudden onset, preservation of the pupillary reflex, and normal fundus present in each case constituted the triad of symptoms described by Dieulafoy as characteristic of hysterical blindness.—J. D. Rolleston, Rev. of neurology and psychiatry, 13: 104, March 1915.

Boucherot, F. M. A. Mental Diseases in the Army in War Time (August 1914–October 1915) (Contribution à l'étude des maladies mentales dans l'armée en temps de guerre; Août 1914 à Octobre 1915) Thèses de Paris, 1915–16, No. 37. 77 p. Bibliography

One hundred and seven soldiers were admitted to the Loiret Asylum between 1st August, 1914, and 1st October, 1915. All were suffering from well recognized forms of mental disease, and no special war psychosis was observed. Depressive states predominated (twenty-five cases). Alcoholism (seventeen cases), which was most prevalent at the beginning of the war, was chiefly noted among the men remaining in the depots. A certain number of patients had previously been in an asylum, and had a recurrence of their mental disorder on the outbreak of war. Examples of morbid lack of discipline were chiefly observed among the cases of dementia praecox (eight cases), or general paralysis (four cases) in an early stage.

The writer insists on the importance of a psychiatric staff for the early recognition and treatment of mental disease in the army in war time.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 222, May 1916.

Lautier, J. M. H. A. Mental Disease in the Army; Can Imbeciles be Made Use of? (Contribution à l'étude de maladies mentales dans l'armée. Peut-on utiliser les imbéciles?) Thèses de Paris, no. 132, 1915–16. 61 p. Bibliography

In peace time the army contains a certain number of imbeciles who carry out their duties more or less successfully. In war time they should be at once discharged, not only from active service but also from the auxiliary force, owing to their tendency to lay violent hands on their officers, their comrades, or themselves, their lack of discipline, and their mistakes in carrying out orders. Ten illustrative cases are recorded.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 479, Oct. 1916.

Vachet, Pierre. Mental Disturbances Following the Shock of Modern Explosives (Les troubles mentaux consécutifs au shock des explosifs modernes) Thèses de Paris, 1915–16, no. 15. 52 p.

Some form of mental confusion is most frequently met with; occasionally a melancholic syndrome is found. Grave forms are exceptional; mild attacks are much more frequent. Sensory or motor symptoms may be absent, but sometimes coexist or develop subsequently, thus necessitating a guarded prognosis. The patients should, as a rule, be regarded as cases of organic disease, and treated as such. They should not, however, be sent far into the interior, but should be kept near the front, as recovery under such conditions is much more rapid.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 221, May 1916.

Ballet, Gilbert, and Rogues de Fursac, Joseph. The Concussion Psychoses; Psychoses from Nervous "Commotion" or Emotional Shock (Les psychoses "commotionnelles"; psychoses par commotion ou choc émotif) Paris méd. 6: 2–8, Jan. 1, 1916

After commenting upon the apparently indeterminate, arbitrary, and capricious character of "concussion states" (shell shock) in contrast to those due to organic injuries, the authors undertake to prove that shock cases follow a regular course as to etiology and pathology which is just as strictly defined and adhered to as in the cases of organic troubles. They criticise the term shell shock (*commotion*) as being at once too inclusive and too limited in its application: too inclusive in that it may apply to cases of hemorrhage of the central nervous system which are as truly organic in nature as an external wound; and too limited in that, strictly speaking, it applies only to symptoms produced by explosion, while clinical observation has shown that identical, *not* analogous, states may be caused by overstrain of a mental or emotional kind, absolutely without any external exciting cause of a material nature.

The authors name three etiological factors in the production of shell shock states: explosion, emotional shock and traumatism. The following figures, compiled from the observation of ninety-seven cases, show the relative frequency of occurrence of the three factors:

Shock from explosion (hemorrhage of nervous system, etc.)	68
Emotional shock	9
Explosion + emotional shock	10
Explosion + traumatism	6
Explosion + traumatism + emotional shock	4
	97

A study of such cases brings us to a conclusion so important that it dominates the whole pathology of shell shock: "If disturbances from explosion and from emotional shock, existing with or without traumatism, produce identical results, it is evident that they have a common factor and this common factor can be only the emotion itself. Disturbance from explosion without external injury presupposes an emotional state, and it is from this state that it derives its causal efficacy; whatever the etiological complex found as the cause of a condition of shock, whether the explosion of a shell, bomb or mine, the sight of the dead, burial in a trench, wound from explosion or a missile, there is only one factor of importance, the emotional factor, which is essentially responsible for all the neuropsychic disorders that together make up the shock syndrome."

This emotional factor is one of the determinants of shell shock. There is another—predisposition. Individuals predisposed to shell shocks are those whose hyperemotional temperament has probably already shown itself in abnormally intense reactions to the painful events of ordinary life, and this same temperament reacts all the more strongly to the conditions of war times which are so much more exigent. It would be most satisfactory if tables showing hereditary and personal histories of these predisposed soldiers could be drawn up, but statistics of this kind are of almost negligible value because of the difficulty of obtaining reliable personal histories and of the impossibility of learning anything trustworthy about family traits. Predisposition can be developed or even created by all debilitating or depressing conditions; first in importance among these conditions are overstrain, exhaustion, wounds, and internal affections more or less serious, such as typhoid, diarrhea, etc. Several case histories are summarized.

"Hence, a pathologic predisposition consisting of a temperament, emotional, constitutional or acquired, is the first condition; the second is a violent emotional shock, either purely psychic, or coexistent with a physical affection, con-

tusion or wound of a part of the body. These two conditions are necessary, and sufficient, to the development of a shock psychosis. This solves the problem of etiology.

"The problem of pathogenesis is not far-removed. A brief resumé of the ordinary symptoms of such cases shows, first, an acute state of either stupor or excitement, usually accompanied by hallucinations and delirium. To this stage belongs also the state of mental confusion and to this stage alone, for, in the majority of cases, when the mental storm has subsided, the patient ceases to be confused; he is simply depressed, or, in brief, a psychasthenic. This first period lasts only a few days. It often ends suddenly, leaving a period of total blank in the patient's memory. The succeeding phase is characterized by three fundamental mental alterations—psychic inhibition, hyperemotionalism and abnormal activity of the imagination. Under inhibition may be classified psychic impotence, the various forms of amnesia, nervous and sensory anesthesias and hypesthesias, general muscular anesthesia, affections of movement and speech, and the functional paralyses of which mutism is a form. Under hyperemotionalism belong states of anxiety and worry, sometimes accompanied by paroxysms, together with all the organic disorders attendant upon violent feeling, such as tremor, respiratory and vaso-motor affections, vertigo, and convulsions. To over-activity of the imagination may be attributed bad dreams, somnambulism, and episodic hallucinatory crises, the last comparatively rare. This over-activity of imagination is essentially centered upon the events of war. Bombardments, beating of drums, bayonet charges, the slain on the field, form the background of almost all the dreams and hallucinations. Hyperemotionalism and exaltation of the imagination give to the shock syndrome its distinctive character and differentiate it from ordinary psychasthenic states, with which it might be confused, were they compared on the basis of inhibitory characteristics. This outline of symptomatology shows that shell shock is only emotional shock intensified and fixed. The study of these states of mind is simply a study in the pathology of the emotions—of such conditions as have been found before the war after railway accidents, mine explosions, earthquakes and all great catastrophes of such a type as to destroy the equilibrium of natures already unstable. Traumatic psychoneuroses resulting from injuries received in industrial accidents and those of civil life often present the same syndrome, sometimes in as perfect and dramatic a form as in the pathology of war.

The outcome of shock cases is variable and the prognosis uncertain. The general opinion is that the outcome is usually favorable. The following figures show results in ninety-seven cases:

Discharged as cured	26
Discharged as greatly improved	37
Still under treatment	31
Sent to the interior	3
	97

Relapses have occurred in many cases, after varying periods of treatment or discharge; sometimes these have been brought about by some untoward event, sometimes they could be traced to no external cause. Dread, even when subconscious, of returning to the front and suffering again the torture of conditions there often militates strongly against recovery. The outcome of such cases can be settled only after peace is made. Recovery is sometimes hastened by invaliding a patient of this kind on half pay. Prognosis varies, according as the patient is treated at the front or evacuated to the interior. The general opinion is that recuperation from treatment at the front is quicker and more positive. The authors feel that this is due to the consequent avoidance of "disadaptation" to conditions, to which the patient has already accustomed himself

with more or less difficulty, and also avoidance of the necessity for "readaptation," which in many cases would be very difficult, and in some, impossible.

The article is concluded with the following sentence: "It is impossible not to recognize in these facts a powerful confirmation of the essentially psychic character and of the exclusively psychogenetic origin of the disorders which constitute shell shock."

Chavigny, Paul. Psychiatry in Military Services; Therapeutics and Legal Medicine (Psychiatrie aux armées; therapeutique et médecine légale) Paris méd. 6: 8–13, Jan. 1, 1916

"Are all symptoms following great explosions accompanied by lesions of the central nervous system? We have, up to this time, very imperfect information upon this subject. Recently Ravaut recorded an observation of an increased amount of albumen and sometimes even the presence of blood in the spinal fluid. The value of this statement is impaired because the initial lesion remains unknown. Moreover, in psychiatry, the relation of the pathological anatomy and physiology to the symptomatology is very variable and uncertain." A case of severe shock with autopsy is next described, in which the findings showed no organic pathology whatever except that the internal face of the duramater was covered with a thin hemorrhagic coating hardly one mm. thick, extending over the whole surface of both cerebral hemispheres and of the cerebellum to the medulla; also, the spinal fluid showed very decided traces of blood. Upon dissection, no lesion of the hemispheres was found except a slight hemorrhagic speckling uniformly distributed throughout the white matter. The conclusion was that the patient died from concussion of the brain and not from any form of rupture. "In spite of the definite nature of the lesions observed, the underlying mechanism of these lesions and that of death escaped us entirely, for a meningeal hemorrhage of this kind was by no means liable to produce any mechanical disturbance because of its minute depth."

The following general rules are given for treatment of mental and nervous troubles found in military service. Treatment must be determined strictly by pathogenesis. It is indispensable that this treatment give immediate results. Also the treatment itself should be immediate. This is an acknowledged condition of its success. Psychic troubles tend to become fixed, crystallized, in proportion as treatment is delayed. Whenever objective troubles coexist with those of a subjective nature, both kinds must be included in the treatment.

Treatment of paralyses, motor troubles and hysteriform affections of sensibility consists in progressive re-education, with application of special therapeutic details according to the nature of the individual case. Re-education of cutaneous sensibility and that of the special senses is the basis of treatment whenever the paralyses or other affections are attended by anesthesia. The method for this type of re-education is the faradic current, always efficacious when the apparatus is sufficiently powerful. The method of application of the faradic current is described. The writer has found most efficacious successive applications upon the area of anesthesia. The extent of this zone is marked with ink upon the patient's skin. With each succeeding treatment the limits of this area are lessened. This diminution is also indicated in ink, until finally the zone is entirely done away with, and also, usually simultaneously, the accompanying paralysis. "That this is an indirect method of suggestion no one can deny; but the important point is that the procedure is efficacious, uniformly efficacious, quickly efficacious. It need only be tried to demonstrate its almost infallible action. Because of the really remarkable results that it gives, this method of re-educating cutaneous sensibility by enlarging zones (*tranches*) certainly deserves to be employed with commendation.

"Re-education of hearing is accomplished by means of a very large tuning-fork with intense vibrations; the base of this is placed upon the crown of the

head or upon the mastoid processes of the patient. Two or three applications of vibratory massage by the tuning-fork each day usually result in quite rapid improvement. At the same time, the patients are given periods of musical re-education by means of a reed organ (harmonium) of which we happened to have the use. Any other musical instrument with very resonant vibrations could have been used in the same way. The patients, during the earliest treatments, keep the ear applied to the surface of the instrument and try to perceive the vibrations. As the hearing improves, they are stationed at increasing distances from the organ."

As has already been stated, paralysis of the limbs usually disappears at the same time and under the same treatment as cutaneous anesthesia. Nevertheless, it is often useful to give the patient certain gymnastic exercises to supplement the other treatment and to establish the stages of improvement in his condition.

"Treatment of mutism has only a very slight relation to that of paralysis of the limbs, for the underlying principle of the method is quite different. It is not a muscular re-education, but a re-education that is purely psychic. The point of departure was discovered in the explanation given by one of the first mutes studied in the service. Absolutely mute after an explosion, but still having the power to write, this intelligent patient wrote, 'I no longer remember the motions to make in order to speak.' The physician places himself opposite the patient, and, according as to whether or not the latter is deaf, asks him, in writing or by speaking, to make at the same time as himself the motions necessary for pronouncing the vowel A. At the moment when he gives the signal to the patient to make the effort to pronounce this letter, the doctor sends a faradic current of moderate intensity over the front of the patient's neck, in the region of the larynx. The success of this method is, one may say, absolute, and immediately afterwards the patient may be taught to pronounce in succession the other vowels, then a short syllable, always making his lip motions very pronounced. . . . Most mutes speak distinctly after one or two sittings. The only ones who need longer treatment are those whose mutism is of long standing. If a faradic apparatus is not available, the method of Garel may be used under the same conditions. At the moment when the patient is trying to imitate the movement of the doctor's lips, the latter applies his clenched fist vigorously and suddenly to the patient's upper abdomen. This startling, unexpected pressure almost invariably results in a loud and distinct 'Ah!'

"The treatment of stammering of emotional origin consists in phonic gymnastics: rythmical respiration, sounds uttered to a set time and simultaneously with movements of the arms or trunk, then periods of singing with musical accompaniment.

"Tics, tremors, and choreiform affections of hystero-traumatic origin are remediable by gymnastics of movement and gymnastics of immobility. During the periods of treatment by gymnastic movements, the patient makes very definite motions to strict time, and of a nature to counteract his involuntary movements. The gymnastics of immobility consist in sittings before a mirror during which the patient makes an effort to preserve immobility during periods of time of increasing length.

"Following great explosions two forms of mental trouble have been found so frequently that other manifestations have become almost exceptional. These are mental confusion and delirious oneirism. In at least 95% of cases these affections are rapidly curable. Of sixty cases observed here, only two were so prolonged and serious that it was necessary to send them to the interior. All the other cases were greatly improved or completely cured in six days at the longest; this fact is also an argument for treatment in a special ward at the front and not in an institution. The treatment, after careful diagnosis, consists in putting the patient to bed in a quiet place, purgation whenever con-

stipation or diarrhea is present, and tepid or cool showers. After some weeks of conducting the special service at St. D———, we became bold enough to receive patients of a type that had previously been considered fit only for urgent evacuation to an institution. When the mental cloudiness diminishes, and the oneirism is lessened, return to the normal state seems to be hastened if one is not afraid of subjecting these patients to a slight prearranged emotional shock by talking with them about their families. Many times we brought about in a few moments the transformation of a very marked indifference into an almost astonishing lucidity. This change was due to the effort induced in the patients by persuading them to write or dictate a few words to their families.

"It is useless to lay stress upon the role of suggestion in the waking state, or suggestion in induced sleep. Suffice it to say that many of the therapeutic procedures extolled here are applications of the method of suggestion in the waking state. As to hypnotism, no more need be said than that its use is prohibited in military hospitals.

"The efficacy of all therapeutic methods recommended here has, to all appearances, been most firmly established by cases who had spent several weeks without benefit in other base hospitals, and who were cured with an almost astonishing rapidity as soon as they were subjected to the rational methods suggested above."

Chavigny next makes a strong plea for the establishment of a service for legal psychiatry in the army, to work in conjunction with the court-martial. He emphasizes the fact that most forms of military delinquency—desertion, abandonment of the post of duty, refusal to obey, destruction of arms and personal belongings, flight, incendiarism, rebellion, violent actions, assault, etc.—are usually traceable to some form of mental trouble. Several interesting cases of military delinquency are cited, in which the tests of psychiatrists resulted in saving irresponsible individuals from court-martial sentence. "It is necessary," he says, "for the expert military alienist to take his stand at the crossroads, which, according to the nature of the case, conduct the accused to the hospital, the asylum, or the court-martial."

The remainder of the article is devoted to a discussion of malingering. The writer has found cases of this to be comparatively rare; one must be on the alert, but must not fall into a permanent state of suspicion, which leads to grave diagnostic errors. "The principles for tests, even in a most suspicious case, remain always the same: never to trust to the impression of the first moment, to observe carefully, never to reveal any suspicions to the accused or to anyone in the vicinity, to complete the observation, to review mentally and consider most carefully and completely the diagnosis; then, if proper, to act, but with the utmost assurance as an expert backed by documentary evidence incapable of error. The doctor who accuses a patient of malingering through mistake performs an absolutely odious act and deserves from both the military and medical point of view the severest approbrium." The curious case of *sursimulation* so often quoted in French journals is cited of the soldier who wrote to his wife that he was feigning deaf-mutism in order to be discharged as unfit, and gave her minute directions for sending him proof of a family and personal history showing mental affection. A few days after the letter was seized, the soldier was stricken, after a shell explosion, with deaf-mutism, and an examination showed all the symptoms of the actual state, eliminating the possibility of malingering. After recovery, tests showed definite hereditary and personal psychopathic traits which were confirmed by further investigation into family and personal history, and led to the discovery that the man bore the reputation of a confirmed mythomaniac.

Tests of the spinal fluid have often revealed organic conditions that gave rise to conduct which might otherwise have been mistaken for malingering. But even when no abnormality is found here, a patient cannot be considered as proved

guilty, for many cases, whose authenticity was established without the least doubt, have shown no blood nor albumen in the spinal fluid. Proving that furrowing of the nails occurred on a date corresponding to the appearance of the nervous or mental symptoms can be very important in the case of late or retrospective examination.

Roussy, Gustave, and Boisseau, J. A Military Neuropsychiatric Base (Un centre de neurologie et de psychiatrie d'armée) Paris méd. 6: 14–20, Jan. 1, 1916. Illus.

After introductory remarks about the need for military neuro-psychiatric centres and their establishment in France, the authors proceed to a detailed description of such a base not far from the front and near one of the evacuation hospitals. At the time their article was written this hospital had been established five months.

This neuropsychiatric centre was installed in the infirmary of a house of detention that had been converted into a military hospital. This infirmary was well adapted to the plan in mind. At first fifty beds were used, but soon the number had to be increased to 150. The service is divided into several parts according to the classes of patients.

1. Organic or functional nervous patients are placed in a small pavilion made up of several rooms containing a few beds (twelve or fourteen) and partitioned off into small compartments of two beds, thus affording comparative isolation for patients. On the ground floor two small rooms of four beds each are reserved for new-comers who could not be examined upon arrival and whom it is most important not to assign to the common rooms where they would be associated with patients under treatment.

2. Twenty special compartments are reserved in the two pavilions to receive patients who must be isolated, such as violent cases of mental disease and those with court martial charges detained after medical examination.

3. In the officers' pavilion, certain rooms are reserved for the neurological service.

4. Two tents of the Bessonneau type, no. 2, set up on the grounds of the hospital, are used for convalescents, especially cured hysterics, for whom a premature commitment to an institution for cripples is often fatal. Functional troubles are so prone to return that these patients are kept under daily medical surveillance until they are sent back to their regiments.

5. Finally, on the ground floor of a neighboring pavilion, two new rooms of fifteen beds, each one with a little adjoining room for treatment, are used for those with nerve wounds, and lesions of the brain and spinal cord. The service includes in addition two medical work rooms for examination and psychotherapeutic and electrical treatment of patients. On the ground floor of one of the pavilions a room with baths and showers was at first installed but later was used for hydrotherapy, which gives daily most important results. The medical service consisted during the first months of a single physician. The work soon became so heavy that a second was added, and more were sorely needed at the time of the writing of the article (latter part of 1915).

As to mode of operation, this service receives all nervous and mental cases from a certain division of the French army. It is near one of the chief hospitals of evacuation and in close connection, by means of automobile ambulances, with other evacuation hospitals of the same division of the army. The majority of patients are received in this way, but some come direct from the field or neighboring hospitals. Although the grouping together of nervous and mental cases presents some inconvienences, on the other hand, it affords undoubted advantages, especially for those states between which it is impossible to differentiate the patients for classification.

Three classes of patients are treated:

1. So-called functional nervous cases.
2. Organic cases for medical or surgical treatment.
3. Mental cases.

In as many instances as possible each patient is examined upon arrival. The earliest possible classification is necessary, both from the point of view of treatment and of the proper administration of the service. Those affected functionally make up the great majority of patients received. The authors add another name to those already in existence for this form of war affliction—*sinistroses de guerre*. These may be divided into three classes; (1) Affections of hearing and speech; (2) Various nervous symptoms, comprising pithiatism, tremors, convulsions, plicatures, astasia, paraplegias, etc.; (3) Mental symptoms, such as mental confusion with stupor and delirium.

Cure always followed the treatment—psychotherapy, electricity, cold shower. If rapid, it takes about a day; if slow, as in more serious cases, two or three days. After symptoms have disappeared the patients remain in the service as long as is necessary to establish recovery. Fifteen days or three weeks after the appearance of their troubles they return to the front. It is easy to see how much time is thus saved. It is evident also how superior these rapid cures are to those which have been delayed, because the former eliminate almost entirely the opportunity for the patient to brood over his symptoms, thus exaggerating and fixing them. In the five months covered by this article only two patients had to return to the hospital. "Whenever a patient returns to his regiment, we take care to send to his surgeon a report with the diagnosis of his case and an urgent request that he be instantly returned to our service at the reappearance of neuropathic symptoms."

Exaggerators, prolongers and those patients who drag their ailments from hospital to hospital are also more easily curable here. They know well that the discipline is most strict and they can often be cured when convinced of the impossibility of being evacuated to the interior. But the cure of these patients shows many exceptions. The same difficulties in diagnosing malingering are encountered as in the interior. The severity of military discipline in such cases necessitates upon the part of the examiner, very long and detailed tests. "In our opinion, one single thing makes justifiable the statement that an individual is attempting to deceive intentionally, and so merits the name malingerer; it is to surprise him in his simulation, to catch him in the very act itself. It is the only proof as strong as actual confession. Cases of real malingering are exceptional."

After brief comments upon organic cases, the authors discuss the types of mental cases brought to their hospital. The number of these was comparatively large. Acute forms rapidly curable, such as certain types of mental confusion, either infectious or toxic, are treated immediately and returned to their regiments after recovery. Those of a more serious nature, but evacuable without danger, are, after a period of observation, sent directly to the military hospital at Val-de-Grâce. Those who are violent and cannot travel by train are sent to a néighboring institution by ambulance in care of a nurse. Dr. Charron arranged for the renting by military authorities of certain pavilions of this institution under the name Military Sanatorium. Thus, for many patients the social stigma of having been regularly committed to an asylum is avoided.

"Statistics in our work here show that 34% of patients were returned directly to their regiments after recovery."

Chavigny, Paul. Hysteric Hemiplegia after Shock from Shell Explosion (Les maladies méconnues; anesthésies et analgésies hystériques) Paris méd. 6: 213, Feb. 26, 1916

Chavigny comments on the harm liable to be done by skepticism as to the occurrence of hysteric disturbances among the troops on active service. One

man, for example, had hemiplegia after a shell explosion near by, and when Chavigny first saw him, nearly a month later, he had been treated with repeated lumbar puncture and dry cupping along the spine. His hemiplegia was as complete as ever and there was already question of a pension. He had had hemianesthesia from the start, which should have warned of hysteria as the cause of the trouble, and the man should have been cured long ago by re-educating the sensibility. Five other typical cases are described in which this was done, and the men were promptly cured. The revealing hemianesthesia was tested with the faradic current. On the sound side it elicited regularly movements of withdrawal while on the hemiplegic side even the strongest current did not seem to be felt at all. This anesthesia was thus of the true Charcot type, and as it yielded to systematic application of the faradic current to the skin, in the course of ten days to three weeks the hemiplegia subsided with it.—J. A. M. A. 66: 1171–72, April 8, 1916.

Benon, R. Nervous and Mental Diseases and War (Les maladies mentales et nerveuses et la guerre) Rev. neurol. 23: 210–15, Feb. 1916

War may be, with its overwork and dangers (a) the sole factor or (b) associated with a physical trauma in the causation of nervous and mental diseases. In the former case the nervous energy, emotivity, ideation, or motor functions of the brain may be specially affected, and cases are classified under these headings. In the latter case most diverse states may be produced: functional motor phenomena come in for special mention, and attention is drawn to the case with which they clear up, and their liability to recurrence.

Of interest are the medico-legal deductions drawn from the experience of this war. The author is of opinion that every man showing neuropathic or psychopathic taint should be discharged from the army. Mental or nervous trouble dating from before the war is rarely exaggerated by it, so the question of compensation here hardly arises. Clinically, neurological and mental cases cannot be sharply separated, as mixed conditions are very frequent. By its fatigues and dangers war may sometimes be a contributory, sometimes a determining cause of nervous and mental troubles. Physical signs must be carefully sought for before a decision is given that a malady is psychical or functional in nature. Nervous and mental cases are just as deserving of compensation as those in which disablement follows a physical lesion. Predisposition to nervous and mental disease plays a smaller role than is commonly supposed. Each case requires special study, and when no trouble can be traced to the period before the war, the man should receive compensation. This should be awarded when improvement does not follow treatment of, at the most, six months' duration. Malingering of nervous and mental diseases is rather rare in war time, though exaggeration of functional motor trouble is common enough. Incipient dementia praecox is often taken for malingering, and often prolonged and minute observations are required before it can be excluded. The author considers it a bad practice to place all psychopathic cases in asylums, since they often clear up in a few weeks. He recommends that every general hospital should have a block reserved for cases of this nature.—H. W. Hills, Rev. of neurology and psychiatry 14: 460, Oct. 1916.

Meige, Henry. Tremors following Explosions (Les tremblements consécutifs aux explosions) Rev. neurol. 23: 201, Feb. 1916.

A detailed study of a case showing generalised tremors for more than a year after concussion by the explosion of an aerial torpedo. Emphasis is laid on the

necessity of determining whether the constitution is naturally emotional, whether exaggerated reflexes, tachycardia, sudden rises of blood pressure or secretory activity are present in addition to the tremors. The constancy of tremors shows that they are not due entirely to the original emotional shock, but their dependence on the latter is evident from their exaggeration, under emotional conditions of a similar nature. When search is made for intention tremors it is necessary to remember that fear of not performing the action required correctly may cause tremors. Old standing tremors probably have an organic basis, perhaps a lesion of the central grey matter of the brain.

Of course one must be satisfied that malingering and intentional exaggerations are absent.—H. W. Hills, Rev. of neurology and psychiatry 14: 459, 1916.

Granjux, The Necessity for Psychiatric and Medico-legal Services in Armies (De la nécessité des services de psychiatrie et de médecine légale aux armées) Le caducée 16 : 43–45, April 1, 1916

On account of the increasing number of mental and nervous troubles in military services caused by the conditions of modern warfare, all armies should have a psychiatric service. This should consist, according to a report of the Congress of French alienists and neurologists, of the provision of hospital care near the field of action for patients not able to be taken away, of the evacuation of others to proper bases for treatment, and of establishments along lines of transportation for the care of those not able to continue the journey. The author then quotes Dr Milian's opinion on the same subject—that a special service should be organized for the care, isolation or removal to the interior of patients who cannot be treated together with the wounded and cases of illness. For this system of caring for the military insane Dr. Milian suggests the following organization: (1) A temporary depot at the front for the purpose of (a) classifying cases not necessarily chronic, (b) sending cases of real mania to the interior; (2) A permanent base at the rear where mental and nervous cases could be kept for a longer time to be examined by an alienist competent to decide for or against confinement in an institution.

Granjux agrees with Gilbert Ballet in advocating the retention for treatment, whenever possible, of the patient near the front in the atmosphere to which he has already adapted himself, with more or less difficulty. Otherwise, he will lose touch with military conditions, will dread the return to the trenches, and will have to readapt himself, often with increased difficulty, to the conditions of warfare.

The opinion of Roussy and Boisseau, founded upon five months' experience in their "Centre de Neurologie et de Psychiatrie d'Armée," is quoted: "A central neuro-psychiatric service can render to an army invaluable services, as much from a medical as from a military point of view. It prevents functional cases from making stays, the more dangerous in proportion as they are prolonged, in base hospitals. . . . It gives opportunity for treating other nervous and mental cases who can be rapidly cured, and for immediate evacuation to special institutions in the interior of those more seriously afflicted."

The author suggests adding to the neuro-psychiatric service services of oto-rhino-laryngology and of ophthalmology for treatment of the many sensory nervous affections caused by war.

The article closes with a plea on the part of the writer, supported by a quotation from Chavigny, for the establishment also of medico-legal centers to collaborate with the medical and neuro-psychiatric centers, and especially with military courts in deciding questions of malingering and other like problems of frequent occurrence in the services.

Régis, E., and Charpentier, Réné. The Military Insane Evacuated to the Interior from the Central Psychiatric Service at Bordeaux: Statistics and Comments (Les aliénés militaires internés du Centre psychiatrique de Bordeaux; statistique et commentaires) Le caducée 16 : 55–59, April 15, 1916

The article is a study of cases of war psychoses and neuroses whose condition made it necessary for them to be sent to the interior (*internés*). The data were taken from reports made to the Minister of War upon the psychiatric situation in three *régions* of the French army. The proportion of *internés* to the whole number of the mentally or nervously affected in the three *régions* was as follows:

Région	*Internés*	*Mental cases*	*Per cent*
18th	52	350	14
9th	34	110	30
12th	55	152	36

Other figures have demonstrated two important facts: (1) the comparatively small number of *internés* received in the three *régions*, and this in spite of the fact that the defects in organization of that period necessitated more numerous and more immediate evacuations to insane asylums; (2) the noteworthy predominance among patients from the three *régions* of those who had not yet been on the firing line over those who had returned from the front.

From these reports the following conclusions were drawn: (1) that active service had not augmented very perceptibly, at least in the French army, cases of actual insanity; (2) that the psychoses produced by fighting are caused chiefly by violent shock, sometimes traumatic, sometimes purely emotional, and present types of mental confusion and oneirism, with amnesia more or less profound. These states are, for the most part, curable and transitory and do not necessitate evacuation to the interior except in cases of mental confusion or actual mania.

An interesting statistical table follows:

Number of soldiers received at the Central Psychiatric Service of Bordeaux from Aug. 20, 1914, to Jan. 31, 1916	1,232
Insane from among these who were sent to the interior (*internés*)	69 (5.6%)
Military classification (including 69 *internés*)	
Active service	8
Reserves of the active service	32
Territorials	22
Reserves of the territorials	7
Rank	
Officers	1
Noncommissioned officers	2
Corporals, brigadiers, privates	66
Source	
From the front	47
From stations in the interior	21
German prisoner	1
Clinical forms	
Mania	11
Melancholia	24
Post-confusional insanity	1
Post-confusional melancholia	4
Mental confusion with agitation	1
Post-oneiric delusion of persecution	1
Chronic hallucinatory psychosis	3
Delirium	2
Dementia praecox	9

General paralysis	3
Organic dementia	1
Alcoholism	8
Agitated state, perhaps simulated	1
Progress to date	
Dead (melancholiacs)	2
Dismissed as cured	
Alcoholics	3
Insane	2
Melancholiacs	1
Invalided	59
Under observation (suspected simulation)	1

After comments upon each item of the table, the authors take up briefly the subject of malingering. They say:

"The question of malingering (*simulation*) arose only once among our 69 *internés*. This was the case of a soldier, in confinement because of a court-martial charge, who was sent to an asylum so that he might be under prolonged observation, which was an impossibility at the front. Previous to his transportation he was greatly agitated and violent, but at the asylum recovered very rapidly and was considered a malingerer."

The remainder of the article is devoted to the problem of invaliding soldiers who have been sent to the interior according to the routine employed by the French War Department.

Babinski, J. Characteristics of the So-called "Functional Motor Disorders" (Les caractères des troubles moteurs dits "fonctionnels," et la conduite à tenir à leur égard) Rev. neurol. 23:521–72, April 1916

The author distinguishes two types of functional disorders—those which are easily cured by psychotherapy, and those in which one is inclined to believe that the patient is opposing recovery. The diagnosis, in the first group of cases, is based essentially upon the exclusion and absence of all the symptoms forming the positive signs of all other disorders. In the second group of cases, in addition to the persistence of the symptoms, it is necessary to take into consideration the presence of vasomotor and trophic disorders, persistence during sleep, sensory disturbances, the mental state of the patient, etc.

In addition to the above groups of cases, attention is also drawn to the persistence of tremor in shell shock cases, and these also the author would term "functional."

If these cases are not curable by psychotherapy, should one not, as demanded by the Society of Neurology, refuse to these patients discharge or sick leave? The resulting discussion is fully reported.—D. K. Henderson, Rev. of neurology and psychiatry 15: 248, July 1917.

Vincent, C. Nervous Disorders Due to Violent Explosions (Sur les accidents nerveux determinés par la déflagration de fortes charges d'explosifs) Rev. neurol. 23 : 573–609, April, 1916

Three types of disorder are differentiated—emotional states, states of concussion, and mental disorders. The author admits that a certain amount of overlapping may take place, but roughly he differentiates these states as follows: the man who is emotionally disturbed does not lose consciousness, is able to look after himself, and can come unaided to the dressing station. The patient who is concussed is immediately, and for a longer or shorter time, unconscious. The mental patient is neither one thing nor the other, but generally

is mentally inert and confused. In this paper the mental disorders are not discussed, but the cases showing a disorder of mood and the state of concussion were analysed both in regard to their immediate and their more remote symptoms. The discussion is reported in full.—D. K. Henderson, Rev. of neurology and psychiatry 15 : 247–48, July 1917.

Lépine, Jean. Disturbances of the Nerve Centers by Explosion (La commotion des centres nerveux par explosion) Bull. de l'Acad. de méd., Paris, 76 : 9–11, July 4, 1916

The article is based upon the study of 1,500 cases of shell shock observed by the writer at the central psychiatric service of the 14th region. He describes the pathology of shell shock, proving it to be, so he believes, of organic rather than of psychic origin. The following quotation summarizes his theory of pathogenesis:

"In shell shock what happens? An increase of pressure, varying according to the distance from the locality of the explosion and the 'lay of the land,' but infinitely more sudden, more brutal than the accidental blowing up of a caisson. . . . It is exerted upon the whole surface of the body, particularly the abdomen, a flaccid region, and causes that symptom of which so many cases of shell shock complain—a pain in the abdomen like that from a blow of the fist. It results, necessarily, in an increase of pressure in the internal vascular plexi, especially those which, like those of the brain and medulla, are enclosed in inexpansible cavities. Because of this, the vessels tend to become dilated and lengthened, sometimes ruptured . . . and, as has been often noted, the spinal fluid shows evidence of hemorrhage. This appearance of the fluid is transitory and disappears in a few days, but spinal hypertension is at the same time present in an exaggerated form and becomes more lasting."

Lépine goes on to state that this same pathological condition can account for the comparatively rare cases of hemoptysis and vesical hemorrhage, and also for long-continued cases of cerebral congestion, producing the syndrome of complete paralysis. To the same origin may be attributed cases of permanent circulatory hypotension. He admits that, in some cases, the disturbance may affect the sympathetic nervous system and cause responsive action; also, that, in other cases, there may be hystero-organic associations, which should, however, be given a biological, not a wholly psychological, interpretation.

Logre, B.-I. Pathological Fugue States Occurring before the Enemy (Sur quelques cas de fugue pathologique devant l'ennemi) Rev. neurol. 23 : 20–24, July 1916

The author points out the great importance of the study of *fugue* states in the army, owing to the fact that, in time of war, fugue becomes synonymous with desertion, and is apt to entail either several years' imprisonment or death. Four cases are reported occurring respectively in a case of alcoholism, melancholia, epilepsy, and in an abnormal affective state with phobias and obsessions. —D. K. Henderson, Rev. of neurology and psychiatry 15: 252, July 1917.

Mendelssohn, Maurice. Paraplegia in Soldiers (Deux Cas de paraplégie de nature organique) Archiv. d'électricité méd. 24: 212–15, July 1916

The present war has been rich in neurological material, or has seemed so, possibly on account of the vast number of wounded as compared with other wars, combined with the modern knowledge of neurology, which has enabled the surgeons to locate accurately and treat successfully many lesions of the nervous system which in former times were regarded as unavoidable visitations of fate.

Particularly significant have been the numerous cases of paralyses which have cleared up for no apparent reason, giving rise to the suspicion of hysteria.

Much has been written about the hysterical paralysis of soldiers, the most spectacular of which have been the cases of mutism, of which there have been not a few. Now, in the *Archives d'électricité médicale* for July, 1916, Dr. Mendelssohn reports two cases in soldiers of complete paraplegia with good recovery. The first man received a gunshot wound, the bullet entering above the left clavicle and passing out between the right scapula and the vertebral column. The symptoms indicated medullary involvement, although the exact site of the lesion could not be determined. The patient was treated by electricity; the spinal marrow was galvanized with a descending current at first, and later with an ascending one, and the paralyzed muscles were faradized. Improvement in all the symptoms occurred, and at the time of writing the patient was able to walk without difficulty and had no disturbances of sphincter control or of sensation, although the reflexes were not quite normal.

The second case followed an operation for chronic appendicitis by ten days. The first symptoms were violent headache and visual disturbances; these symptoms cleared up, but two days later the man complained that he could not pass urine voluntarily. Examination revealed a complete paraplegia, with abolition of reflexes. Recovery began in six weeks, and was complete in fifteen. The writer states his belief that it was organic in nature, although not giving his reason for so thinking, and he does not explain the recovery under this supposition.

The conclusion drawn by Mendelssohn from these two cases is that the prognosis of paraplegia, due to medullary lesions from whatever cause, is not always so grave as usually supposed. While his material is hardly adequate for generalization, we are inclined, on the whole, to agree with him. We would call attention, furthermore, to the large proportion of purely functional paralyses. It is reasonable to suppose that these would take the form of paraplegia rather than hemiplegia when we consider that the former condition results in absolute inability to walk and a consequent relief from all of the demands of reality, while the latter does not necessarily imply this.—Med. rec. 91: 856–57, May 19, 1917.

Porot, Fundamental Points of the Mental Examination in the African Battalions, and Special Groups in Time of War (Les bases de l'expertise mentale dans les bataillons d'Afrique et les groupes speciaux en temps de guerre) Rev. neurol. 23 : 24–27, July 1916

In the African battalions and in the special groups (reservists and territorials) there are quite a number of persons who are either mentally enfeebled, or who have previously been in asylums. In time of war, one should be chary about discharging such individuals, as they are capable of performing certain essential, more or less mechanical duties. For instance, they can carry a sack, or handle a pick, and, provided the individual is physically strong enough, there is no reason why a dement, or a mental defective, or a hypomanic patient should not be so employed. The discipline and restraint of a military life have sometimes a really beneficial effect on hypomanics.

General paralytics, chronic confused states with an element of dementia, chronic agitated delirious states, acute manias and melancholias are, of course, quite unfit for service. But discharge is a solution which should rarely have to be employed, as a good many of the above either recover sufficiently to be sent back to their regiments, or else are committed to asylums. The degree of responsibility of these individuals when guilty of wrong-doing or insubordination is also discussed.—D. K. Henderson, Rev. of neurology and psychiatry 15 : 264, July 1917.

Sollier, Paul. Case of Whitening of the Hair Caused by Emotional Shock (Un cas de canitie par commotion et émotion) Lyon méd. 125 : 329, Aug. 1916

The question of whether or not canities can be of emotional origin is still unsettled. A case is here presented:

The soldier in question remained buried, after the explosion of a mine, for thirty minutes. He lost consciousness, but, when he came to, was able to dig himself out. His face was so severely burned that the whole head had to be bandaged. When the bandages were taken off three days later, it was noted that the canities still remained, although in a somewhat diminished state. Whole locks of hair had become perfectly white. Also there were present bleeding of the nose, total deafness, intense headaches, especially in the back of the neck, and fifteen days later a general tremor, beginning with the head, developed. There were also sudden reflexes, a general and very marked hypoaesthesia, a general spasmodic condition, exaggerated emotional states, almost constant nervous vomiting, depression and slight mental confusion. Most of the symptoms disappeared gradually, and the physical and mental state of the patient improved considerably. A slight deafness persisted, but the most marked symptoms which remained were those of duplication of personality and moral indifference. At the same time the canities were considerably diminished. . . . Probably it will disappear entirely when the remaining symptoms go. The patient did not conceal the fact that he was terrified at the time he was wounded, so it seems probable that the canities was due to fear rather than to the shock itself, considering the infrequency of this symptom in the numerous cases of pure shock showing no intervention of a mental or psychological factor, and to the emotional state following the injury. It seems probable, therefore, that these two causes produced the condition, and, from whatever point of view one considers the question, the fact remains that canities may appear suddenly from a purely nervous cause.

Claude, H., Dide, M., and Lejonne, P. War Psychoses (Psychoses hystéro-émotives de la guerre) Paris méd. 6: 181-84, Sept. 2, 1916

Claude and his co-workers cite some typical cases, explaining the trouble by exclusion as a hysteric neurosis created by emotional stress on a constitutional predisposition and perpetuated by dread of being sent back into danger.—J. A. M. A. 67: 1188, Oct. 14, 1916.

Laignel-Lavastine, M., and Courbon, P. Dual Personality Controlling the Gait as a War Psychosis (Troubles de la march consécutifs aux émotions et commotions de la guerre) Paris méd. 6: 194-203, Sept. 2, 1916

In this study of the locomotor disturbances in those the writers call the "émotionnés" and the "commotionés" of the war, one characteristic is manifest through the manifold varieties of such disturbances. This characteristic is the ease and promptness with which these disturbances settle into established habits, and the difficulty of breaking up these habits. It seems as if the locomotor automatism has actually escaped beyond the influence of volition. In short, they say, there is a more or less complete dual personality so far as the gait is concerned.—J. A. M. A. 67: 1188, Oct. 14, 1916.

Roussy, Gustave, and Boisseau, J. Nervous Phenomena from Explosion nearby (Les accidents nerveux déterminés par la déflagration des explosifs) Paris méd. 6: 185-91, Sept. 2, 1916

Roussy and Boisseau report some of their 133 cases of this kind among 1,300 war patients in nine months. None had any signs of external injury. In the vast majority of the cases the disturbances were of the hysteric type, all curable at once by psychotherapy.—J. A. M. A. 67: 1188, Oct. 14, 1916.

Briand, M., and Philippe, J. Re-education of Functional Deaf-mutism (L'audi-mutité rebelle, d'origine émotionelle) Progrès méd., Paris, Sept. 5, 1916, p. 145

Briand and Philippe report a case in detail to show the various steps in the re-education of men who had lost the power of speech under emotional stress. They begin with rhythmic exercises in breathing, then in blowing out the light of a match, or a candle, then in blowing soap bubbles. The next step is to whistle, first one note, leading up slowly to whistling some very simple familiar tune. Then the vowels in turn, expatiating amply on the progress realized, but leaving actual speech to be casually rearoused spontaneously. In short, they emphasize, treatment must be insidious rather than with force.—J. A. M. A. 67: 1189, Oct. 14, 1916.

Ranjard, I. Deafness from Shell-Shock (Les surdités par obusite) Bull. de l'Acad. de méd., Paris, 76: 195–98, Sept. 12, 1916

The writer divides his subject into two parts: organic and neuropathic deafness.

After a brief discussion of organic deafness, he defines neuropathic deafness as the functional inhibition of the centres of auditory sensation or identification. Shell-shock probably produces its effect upon these centres by the parallel and simultaneous action of cerebral disturbance and emotional shock. These disturbances are functional and cause no changes in the reflexes. The inhibition of auditory sensation constitutes the so-called neuropathic deafness always associated with mutism of the same nature. It is bilateral, absolute for all sounds, and not accompanied by labyrinthine disturbances. These three characteristics are not peculiar to it; they may be present also in organic deafness. Therefore, it is impossible, when these three symptoms are present, to prove whether the deafness is purely neuropathic or that it is not. Impaired power of sound identification is often present in cases of shell shock. It exists sometimes before treatment, sometimes after the development of the hearing through reeducation. Also, the power of auditory attention may be greatly affected by the diminution of voluntary attention, thus making the patient appear more seriously afflicted than he really is.

The author states the following conclusions:

1. These various symptoms of impaired hearing may exist singly, but more often they are found in combination, either with one another, or with other symptoms of the same origin. Deafness from shell-shock is, therefore, very complex.

2. Exact diagnosis of these disturbances can be made only with the help of an accurate mathematical acoumeter like the *sirène à voyelles* of Marage. The conventional methods of examining the hearing by speech alone or with a watch give untrustworthy and insufficient results.

3. This diagnosis is extremely important for two reasons: first, to aid in the treatment, since neuropathic deafness requires psychotherapy, and organic deafness is cured or helped by auditory reeducation; secondly, it is necessary

to know exactly the nature and degree of the deafness from shell-shock in order to arrive at a just estimate, when all or some of its morbid conditions persist, of the degree of the patient's invalidism and of the rate of pension to which he is entitled.

Rimbaud, L. Treatment of Psychoneuroses by Electric Shock (À propos de la méthode de traitement des psychonévroses dite "du torpillage") Marseilles-méd., Sept. 15, 1916, p. 33–41

The article is a detailed description, with illustrative cases, of Dr. Vincent's method of treating by electric shock cases of psychoneuroses, pithiatism and semi-malingering (*demi-simulation*). The author advances it as a refutation of certain charges of inhuman treatment brought against Dr. Vincent.

Giroux, L. Hemiplegia Following Intoxication by Asphyxiating Gases (Hemiplégie consécutive à une intoxication par les gaz asphyxiants) Bull. et mém. Soc. méd. Hôp. de Paris 40: 1486–88, Oct. 13, 1916

A hitherto healthy soldier, aged 20, was the victim of a gas attack while asleep. In twenty-four hours he lost consciousness and remained for a week in a comatose state, on recovery from which he was found to have a flaccid left hemiplegia, in which contracture subsequently ensued. Giroux attributes the hemiplegia to the thrombotic action of the chlorine gas.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 238, July 1917.

Guillain, Georges, and Barré, J.-A. Late Apoplexy following Shell Explosion without External Wound (Apoplexie tardive consécutive à une commotion par éclatement d'obus sans plaie extérieure) Bull. et mém. Soc. méd. Hôp. de Paris 40: 1473–74, Oct. 13, 1916

A soldier lost consciousness for several hours as the result of an explosion of a large shell close at hand, and remained in an asthenic condition, though gradual improvement took place. The cerebrospinal fluid was normal. A month after the explosion he suddenly developed subintrant epileptiform attacks, and became comatose. Death took place the same day. The autopsy showed diffuse congestion of the brain, most marked in the right hemisphere, in which a recent haemorrhagic focus was found situated in the anterior part of the lenticular nucleus and in the front limb of the internal capsule.

The pathogeny of this later apoplexy is as follows:

The explosion had primarily caused a slight haemorrhage from a vessel in the central grey nuclei in the right hemisphere, this haemorrhage explaining the loss of consciousness and subsequent symptoms. The vascular lesion had not completely healed, and a month later a secondary haemorrhage had occurred, causing the ictus epileptiform attacks and coma.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 237, July 1917.

Guillain, Georges, and Barré, J.-A. Two Cases of Organic Hemiplegia, Following the Bursting of Heavy Explosives, without External Wound (Deux cas d'hemiplégie organique consécutive á la déflagration de fortes charges d'explosifs sans plaie extérieure) Bull. et mém. Soç. méd. Hôp. de Paris 40: 1470–72, Oct. 13, 1916

In the first case there was a severe left hemiplegia with disturbance of superficial and deep sensibility and early contractures. The diagnosis on admission

to hospital was "hysterotraumatism, hysterical left hemiparesis." In the second case the hemiplegia was slight, and would doubtless clear up without leaving any trace. In both cases the changes in the cerebrospinal fluid were slight; in the first patient there was hypertension with slight lymphocytosis and without excess of albumin, and in the second there was a moderate excess of albumin without obvious hypertension and without lymphocytosis.

The pathogeny of these organic hemiplegias is explained by the existence of small haemorrhagic foci in the course of the pyramidal tracts.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 237, July 1917.

Marage, M. Twelve Months of Auditory Re-education in the Army; Results in 250 cases (Douze mois de ré-éducation auditive dans l'armée; résultats de 250 cas) Bull. de l'Acad. de méd., Paris, 76: 318–20, Oct. 24, 1916

A statistical summary of the results of treating by the *sirène à voyelles* 250 cases from the French army of deafness, both from organic causes and from labyrinthine or cerebral shock.

Liébault, G. War Aphonia. Rev. de laryngologie, d'otologie, etc., Oct. 31, 1916, p. 457–64

Dr. Liébault says that "among the men who have lost their voice in the war, some attribute their aphonia to commotion or nervous traumatism caused by the explosion of shells. In most, however, the affection comes on gradually without shock. Some come to the services of voice-reeducation with a diagnosis of more or less obstinate nervous aphonia, others with one of laryngitis of suspicious or distinctly bacillary nature. There are some in whom in addition an examination of the larynx shows simple lesions of overstrain of the voice or chronic laryngitis. Appropriate treatment with a course of phonetic reeducation effects a cure and prevents discharge from the army. Liébault saw ten cases of this kind. All traced their affection to their stay in the trenches where they suffered from fatigue, bronchitis and laryngitis following cold and wet. A long clinical description of physical symptoms is given. Often the patient is supposed to be suffering from tuberculosis. When a correct diagnosis is made, cure is, with proper treatment, a matter of a few weeks and the man can return to duty. A wrong diagnosis causes a long stay in one hospital after another with pulmonary treatment and laryngeal therapy of fumigations, inhalations, etc., which has never alone cured laryngitis caused by wrong use of the voice. The result is likely to be discharge from the army of men who, if properly treated are fit for future service. Liébault thinks this happens not rarely.

Bérard, Leon. Basedow's Disease and the War (La maladie de Basedow et la guerre) Bull. de l'Acad. de méd. 76: 428–33, Nov. 28, 1916

Bérard observed a number of cases of Basedow's disease in soldiers between the ages of twenty and forty-five, a period in which the malady is usually of rare occurrence in males. Sometimes it appeared in cases who had had for some time small, undeveloped goiters. The etiology was that usually observed: physical and mental overstrain, toxic conditions caused by unsanitary food or water, microbic infections, with slight attacks of thyroid irritation. In three cases, however, exophthalmic goiter developed almost suddenly at a time of intense emotional stress, repeated suffering, and violent physical effort. In a few days these cases developed enlargement of the neck, bulging of the eyes, an accelerated pulse, and a tendency to instability and nervousness. All three had diarrhea together with considerable emaciation. Not taking into account the well known

evil effects of general infection upon thyroid functions, the pathogenesis of such syndromes is allied to that of nervous shock, in which they are recognized as essential elements of vasomotor disturbance, and as changes, temporary or permanent, of the glands and internal secretions, as well as of the cells of the nerve centers.

For all forms of Basedow's disease treatment is the same: (1) To isolate the patient as much as possible in quiet and comfortable surroundings, where he will feel complete security; (2) In rapid and acute cases, to precede medical treatment by tepid baths, and above all to administer alternate doses of quinine and salicylate of soda. The following remedy, approved by Lancereaux, Babinski and Chibret, has given excellent results for a period of ten years if prescribed in doses of sufficient strength and for a long enough time:

1 gr. of sulphate of quinine every other day.

2 gr. of salicylate of soda on the intervening day.

The ingestion of fresh thymus, the subcutaneous injection of serum from animals whose thyroid gland has been removed, will also give very beneficial results. If, after five or six months of this treatment methodically pursued, the trouble is only slightly alleviated, surgical treatment should be resorted to. The decision to operate upon such cases should be made after much more careful consideration than is necessary in youthful cases who have physical resistance and in whom cardiac trouble is less to be feared than in chronic cases or older patients.

The writer concludes his article with a description of the pathology of the disease and of the operation for cure.

Prenant, A., and Castex, André. Experimental and Histologic Study of Labyrinthine Shock (Recherches experimentales et histologiques sur la commotion du labyrinthe) Bull. de l'Acad. de méd., Paris, 76 : 535–37, Dec. 19, 1916

The article consists of a detailed description of the results of experiment upon guinea-pigs and rabbits to determine the kind of lesions, if any, produced by shock of the internal ear. The animals were exposed at close range to artillery fire, killed immediately afterward, and the ears and brains carefully examined. The writers found that in these cases real lesions had been produced, yet they admit that other causes may contribute to deafness from explosion.

Their conclusion is: "The violent disturbance caused by shell explosion produces a breaking down of the walls of the ear cavity, a rupture of the cochlea . . ."

Blum, E. Malingering among soldiers (La carotte) J. de méd. de Bordeaux 87: 274, Dec. 1916

Blum reviews the various factitious affections that may be induced to escape active military service. The list is a long one, and the reports of simulators run through history from Hippocrates downward. He says that the word "poltroon" is a relic of voluntary mutilation to escape military service. The men who cut off their thumb were called *pollices trunci*. The army medical men now have to be on the alert to detect simulation, not only in picric jaundice but in disturbances of all kinds, from the stomach trouble induced by ingestion of oil or tobacco, "hemoptysis" from pricking the throat, "diabetes" from phlorizin or ammonium oxalate, edema of the legs from a tourniquet, abscesses from a thread soiled with tooth tartar, to all kinds of skin affections and discharges induced and maintained by irritating or infectious substances. Factitious epileptic seizures are easily differentiated. The discovery of a fork that fitted the marks in the skin upset the story of one man who claimed to have been bitten. The prevalence of factitious jaundice has fastened the name "carrots" on these malingerers.—J. A. M. A. 68: 1009, March 31, 1917.

Grandclaude, Charles. Shock after the Explosion of Large Shells (La commotion après l'explosion des obus de gros calibres) Thèses de Lyon, 1916?

The thesis is a study of certain symptoms observed by the author following the explosion of large shells. These symptoms differ from the symptoms caused by internal injury, yet are due to physical, not emotional, shock. Although the atmospheric pressure can impress and make vibrate the cellular membranes, the vessels, the nerves, and the various organs, it cannot rupture them at a definite point, but it can create general disturbances which are the evidences of an acute disturbance localized in the circulation of the brain, the medulla and the viscera. Usually the symptoms are transitory and curable, disappearing in a few days or weeks. This distinguishes them from those of internal injuries, which are usually clearly defined and lasting.

The author divides the syndromes to be found in these cases into psychic and somatic.

Stupor, or loss of consciousness, is probably the most frequent of the psychic symptoms. It may last for a few moments only, or for a week, and is usually accompanied by asthenia, loss of physical functions, a fixed staring of the eyes, and stertorous breathing. This condition is generally succeeded by a state of cerebral torpor, accompanied by amnesia and disorientation. A third condition is likely to follow, marked by hallucinations with agitation and war delusions.

Among the frequent somatic symptoms are headache, sometimes very intense, asthenia, and sensory, vasomotor and visceral disturbances. The author denies that any of these troubles can have an emotional origin as the sufferer has usually had no knowledge of the shell's coming until it strikes him and renders him unconscious; he was given no time in which to feel fear.

The intensity of these disturbances depends upon:

1. The violence of the shock.
2. The general condition of the individual prior to the explosion.
3. The heredity of the patient.

Cases of loss of consciousness are the most serious. Certain patients remain in an abnormal condition for months, showing states of childishness and folly that suggest the onset of dementia praecox. But, in the large majority of cases, the predominating symptoms seem to disappear quickly, yet this cannot be called an actual cure. Even in the less acute cases, headache may persist for months, also amnesia and a kind of mental inertia. Also relapses are frequent. The organism is, apparently, "sensitized" by the first shock so that it is predisposed, and the effects of a new shock, although light, may be more serious than those of the first.—J. de méd. et chir. 87: 711–13, 1916.

Guillain, Georges, and Barré, J. A. Organic Pyramidal Lesions Following the Explosion of a Projectile without an External Wound (Troubles pyramidaux organiques consécutifs a l'éclatement d'un projectile sans plaie extérieure) Bull. et mém. Soc. méd. Hôp. de Paris 40: 834-38, 1916

Guillain had previously seen numerous cases of nervous disturbance of an undoubtedly organic nature following the explosions of bombs, air-torpedoes, *minenwerfer*, etc., without an external wound, and has recorded cases of epileptic attacks, paraplegia, hemiplegia, mental disturbance with bulbar symptoms, a cerebellar syndrome of the type of disseminated sclerosis, tremors, and choreiform states due to this cause.

The present case is that of a soldier who lost consciousness after explosion of a bomb, and then developed nervous symptoms characterised by headache, asthenia, vertigo, and changes in the reflexes. The pyramidal signs were bilateral ankle clonus and extensor response. In a month's time the symptoms disap-

peared and the plantar reflex became normal on one side, and it seemed probable, from what had occurred in similar cases, that all the other reflexes would become normal also. Soldiers who have been examined several months after the trauma on account of asthenia, difficulty in long marches, tremor, etc., are often regarded as cases of hysteria. Such a view is open to criticism, because one is not justified in concluding that organic signs did not exist at the onset from the fact that they are no longer present.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 458–59. Sept. 1916.

Porak, René. New Physiological Symptoms of the Psychoneuroses of War (Nouveaux signes physiologiques des psycho-névroses de guerre) Comptes rendus de la Soc. de biologie 79 : 630–34, 1916

After commenting upon the necessity of early and accurate diagnosis of war psychoneuroses, and upon the importance of knowing the physiological symptoms, the author describes the three kinds of physiological tests used in the Central Neurological Service at Bourges to which he was attached. The period covered by his report is from March 1914 to January 1915. These are: (1) perspiration tests, (2) ergographic tests, (3) vasomotor tests. The technique of these tests is described.

The author draws the following conclusions. The perspiration and the vasomotor tests put in action the nerve bundles themselves. The ergographic tests determine the muscular contractions, as to whether they are dynamic or static, isolated or recurrent. The perspiration and vasomotor tests apply in particular to sensory-motor paralyses of which diagnosis is sometimes difficult. The marked simplicity of technique and the accuracy of result place the perspiration tests in the first rank for neurological examination. The vasomotor tests, described here for the first time, necessitate a more complicated technique and are in themselves a very special method of research. The results agree exactly with those of the perspiration tests.

Montembault, E. Study of Mental Diseases in Soldiers during the Present War (Contribution à l'étude des maladies mentales chez les militaires pendant la guerre actuelle) Thèses de Paris, 1916–17, no. 15

The thesis is based on the study of cases of mental disease admitted to the Navarre Asylum from 2nd August, 1914, to 30th October, 1916.

The writer's conclusions are as follows:

1. War does not create any special psychoses.

2. In the present war, post-traumatic psychoses, due to the violence and power of engines of destruction, are extremely frequent.

3. Contrary to what was observed in 1870, melancholic forms of insanity have been more numerous than cases of maniacal excitement.

4. Most of the military patients were predisposed to insanity, but many of them would probably have remained all their life free from symptoms but for the present war.

Among the causes which have given rise to the mental disturbances, trauma should take the first place; psychical trauma appears to be much the most frequent, while lesions of the nerve centers are relatively rare.

Exhaustion and fatigue, which act like an auto-intoxication, are next most important. Then come intoxications and infectious diseases.

5. The symptoms of insanity in the military patients have almost all a war coloring, which is shown (a) in ideas of unworthiness, guilt, and expiation; (b) in ideas of persecution and auditory hallucinations; (c) in exalted ideas.

6. The civilian patients sometimes show a war delirium analogous to that of the mobilised.

7. The prognosis of the psychoses caused by the war is favorable as a rule. The proportion of curable cases is about 80 per cent. The duration of the disease is shorter than that of psychoses seen in the civilian population.

8. The curability and rapidity of the cure of these psychoses are due (a) to suppression of the determining cause; (b) to the age and physical vigor of the patient; (c) to rational treatment (isolation) applied as soon as the mental disturbance appears.—J. D. Rolleston, Rev. of neurology and psychiatry 15 : 264–65, July 1917.

Verger, H. History of Two Cases of Prolonged Sleep. Varieties of lethargic states (Histoire de deux dormeurs. Variété des états léthargiques) Gaz. hebd. des sci. méd. de Bordeaux 38: 11–13, Jan. 28, 1917

Professor Verger has recently had under his care two cases of prolonged sleep which differed from each other in many respects:

Case 1 was a lyrical artist of 31, who was in excellent health at the outbreak of war; no known history of any nervous attacks. On 6th September 1914, during a battle, he disappeared from his regiment, and no one knows what happened to him. At any rate, he received no wound, for four days later he was taken to hospital with a diagnosis of traumatic aphasia. It is now known that even then he was in the same state of deep sleep in which he was when nearly two years later he came under Verger's care. In 1914 he could walk without waking, if held up under the arms. During the month he was under Verger's care, his sleep was exactly like natural sleep, except that he could not be wakened; at times he even snored. The eyelids were closed, with a constant tremor; mouth closed; face of natural colour. Regular abdominal respiration, as quick as 20 to 24; pulse regular and rapid, 96 to 110; arterial tension gave by Pachon's instrument, 17 for maxima and 7 for minima. Temperature varied from 36.5° to 37.1° C. The whole body was relaxed, but without loss of tonus or tendency to catalepsy. He made the normal movements of a sleeper, lay in dorsal decubitus, and quickly returned to it when placed on his side. Sensory stimuli, *e. g.*, pricks, pinchings, tickling, provoked feeble defensive movements, but had no effect on his sleep. Light and sounds were absolutely without effect on him. All tendon jerks and skin reflexes normal. Pupils could not be examined, owing to spasmodic upward turning of eyes on opening of lids. All organic functions normal; swallowed liquids easily; micturition and defaecation at regular intervals; never any erections or emissions. He remained remarkably well covered, with very marked relief of muscle. Urine normal; 20 gm. of urea, 5.85 of chlorides, and 1.80 of phosphates in twenty-four hours. Patient never uttered a sound, and never assumed attitudes as if he were dreaming. All attempts to waken him failed; chloroform merely made him vomit; even intense electrical stimulation produced merely defensive movements, and he went on sleeping peacefully. He left hospital after a month's stay, and has not been heard of; probably he is still asleep.

Case 2 is of quite a different kind of lethargy. A man of 28, of unknown antecedents, had typhoid fever in August 1915 while at the Dardanelles, and was sent home on 21st December, 1915. He was received into a hospital in a state of profound prostration, speechless, with clenched teeth and closed eyes. Next day no reactions to sensory stimuli. Fever gone, pulse 72; had to be fed artificially; came under Verger's care on 9th February, 1916. He looked like an ordinary sleeping man, his eyes were closed, but with a perpetual tremor of lids, clenched teeth, facial expression calm, and limbs completely relaxed, though there was a slight tendency to maintain them in postures passively induced.

Unlike case 1, he remained motionless in any position in which he was put, and did not react to any sensory stimulus. Respiration slow, 10 to 12, of feeble amplitude, commonly regular; but on several occasions of Cheyne-Stokes type. Pulse 75 to 90. Temperature varied from 36.4° to 37.5° C. Arterial tension by Pachon, maxima 10, minima 6, with maximal amplitudes of only two divisions. The tendon jerks, at first feeble, very quickly disappeared. Alimentation was difficult, owing to impossibility of opening his clenched jaws; fed by nasal tube and behind molar teeth. Vomited frequently; this was combated by varying his diet. Micturition at intervals, enemata needed. Undigested food often in faeces. Patient remained in this state for seven months (till September 1916) but wasted progressively and became a living skeleton; all the pelvic and limb bones could be felt easily, and the muscles felt like elastic bands, but continued to react normally to mechanical and electrical stimulation. He looked more like a corpse than a sleeping man. All the vital functions became extremely feeble. He had a profuse diarrhoea, and then his sleep ended; he opened his eyes. At the moment of waking his respiration quickened to 20, pulse to 84; very feeble. During the night, he began to speak, asked for rum, and complained of coldness of head and buttocks. During next day was in complete collapse, with a rectal temperature of 36° C. Purpuric streaks could be produced on abdomen and thorax; his face retained its colour. He showed no surprise on waking, and spoke only to ask for rum and coffee, which he drank easily. He answered questions only in monosyllables. Death on that night (2nd September, 1916). *Necropsy.*—Nothing but total loss of fat, intestinal retraction due to inanition, and a remarkable smallness of the heart.

Professor Verger contrasts these two interesting cases. The first he regards as one of hysterical lethargy. The second case showed a slowing of all organic functions, with total suppression of cerebral functions, a stuporous state pushed to extremes, or one resembling hibernation of certain animals. Probably a toxic cause was at work, but lack of time prevented proper studies by Verger on this point. The diarrhoea immediately preceding the waking from the prolonged sleep was possibly a sort of toxic discharge. From this moment death was seen to be inevitable; for the circulation, just enough for a sleeping man, could not keep alive a waking one. Hence the fatal terminal collapse.—L. J. Kidd, Rev. of neurology and psychiatry 15: 269-71, July 1917.

Aimé, Henri. Variety and Evolution of Nervous and Psychic Troubles of Commotional Origin (De la variété et d'évolution des troubles nerveux et psychiques d'origine commotionnelle pendant la guerre) Presse méd., Paris, 25: 113–14, Feb. 22, 1917

Aimé gives results experienced by him in thirty months of warfare—168 cases divided up as follows: 12 cases of deafmutism or mutism with or without actual lesions of the ear; 28 cases of painful commotion (frontal headache with confusion and asthenia); 17 cases of labyrinthic commotion of various degrees; 54 cases of the typical commotional syndrome (mydriasis, hyperreflexia, sweating disturbances of thermogenesis, increased emotionalism); 42 cases of mental confusion with lacunar amnesia, oneiric agitation and delirium, cataleptoid attitudes, etc., and 17 miscellaneous cases (paretic, convulsive, etc.). Simple mutism and deafmutism are rare for, as a rule, they constitute part of a syndrome. Cases of simple mutism were left to themselves and not treated as hysterics by isolation and psychotherapy. The good results of this management are seen in spontaneous recovery. Deafmutism shades into the so-called painful emotional states and appears to be connected with inimical lesions of the labyrinth. In the complete syndrome we see frontal headaches which may persist for months and a psychic depression which interferes with normal mental activity. There is a

certain degree of deafness and vertigo, so that the patient has some difficulty in maintaining the upright position. For months perhaps he has the association of headache and insecurity. After several months the voltaic vertigo test shows diminished excitability on one side. The middle ear may show redness and edema. This participation of the tympanum is due evidently to the decompression of air at the moment of explosion, and the internal ear may be secondarily involved, perhaps after the middle ear is found to be intact. The author has seen a case in which a shell explosion was not heard by a patient although the decompression caused loss of consciousness and was followed by mydriasis, sweating of the extremities, hyperflexia, nystagmus, hebetude and vertigo on sitting up. Only gradually was he able to stand up, and for a long time had left to right rotatory vertigo, nystagmus and tremor of the legs with inability to ascend or descend stairs. In other words he had commotion of the labyrinth with astasia-abasia and ataxia. In some of these cases the decompression can burst the petrous bone outright although other soldiers in the same area of explosion suffer no labyrinthine trouble whatever. In the so-called emotional-commotional or typical syndrome we see persistent mydriasis, with relatively brief hyperreflexia and an entire series of vasomotor disturbances and mental symptoms (acrocyanosis, hyperidrosis, dermographism, mental confusion, aboulia, complete moral apathy, hyperemotionalism, pusillanimous fears, irritability, tendency to weep, etc.). Predisposition plays a considerable role in the determination of the type of commotion. Esthetic subjects (artists, musicians, etc.), often exhibit disorientation, stupor, dream existence, mutism and cataleptoid attitudes. Any weakness of organs or constitution seems to be brought out—as alcoholism and hepatic or renal insufficiency. In certain cases insufficiency of the glands of internal secretion is made manifest. In certain cases the shock of decompression affects the heart or abdominal viscera or urinary organs. There is some temptation to classify according to the organs involved but this course would be artificial and misleading. The author even questions the propriety of using such expressions as neuroses and psychoneuroses in this connection since psychic and somatic phenomena are as interwoven. Asthenia is the condition which he seeks to reach, as these subjects have suffered from fatigue and exhaustion before having been shell shocked. He administers strychnine and adrenalin in large doses. He gives no sedatives whatever, diet and mild hydrotherapy comprising the principle management.—Med. rec. 91: 784, May 5, 1917.

Prenant, A., and Castex, André. Experimental and Histologic Study of Shell Shock of the Internal Ear (Commotion des labyrinthes) Paris méd. 7: 197–201, March 10, 1917

The disturbances described are classified as physiopathologic, the mind not being a direct factor. The disturbances are more of a reflex nature, but the reflex mechanism involved is more extensive than Charcot's conception of reflex functioning. The entire root, spinal cord and sympathetic systems may be involved, as is described, with a few typical illustrations. Ferrand reports an instructive case—already subjected to two useless operations—and emphasizes that treatment should be along the lines of that for hystero-traumatism, ranging as required from moral suasion to the most painful electric currents. By these means treatment is often crowned with success. The physiopathologic symptoms, he reiterates, are nothing new, and they do not contraindicate psychotherapy. He does not approve of this term "physiopathologic" nor of "reflex"; both indicate that hysteria is not responsible for the manifestations, while he is convinced that they fit into Charcot's frame of hystero-traumatism.—J. A. M. A. 68: 1440, May 12, 1917.

Blanc, J. Thyroid Treatment of Neuroses (La dysthyroïdie facteur de névroses) Progrès méd., Paris, 32: 95–98, March 24, 1917 References

Blanc comments on the remarkable frequency of abnormal thyroid functioning in the men on active service. He recalls that the thyroid is peculiarly susceptible to emotional stress, overfatigue and defective hygiene, which readily explains why so many of the troops present evidences of abnormal thyroid and parathyroid functioning. He has found the oculocardiac reflex a good index of conditions. With these functional disturbances of the nervous system this reflex is usually exaggerated, indicating vaginotomy. Under thyroid or parathyroid treatment or both, this reflex disappears or becomes inverted as recovery progresses.

Duprat, G. L. Psychotherapy in War Time. Progrès méd., Paris, 32: 113-14 and 123-25, April 7 and 14, 1917

Duprat states that the role of psychiatry has been singularly enlarged by the number and variety of mental pathologic conditions during the war. The war has also emphasized the importance of neurology, but he warns that while waiting for time to heal certain nervous affections there is danger of atrophy from disuse. The neurologic centers should be equipped for exercises and the physiologic play of body and mind. Re-education is as important, often, as any operation. The concussions and commotions of the war usually aggravate or accelerate pre-existing pathologic conditions. Consequently the symptoms induced are out of all proportion to the apparent cause. The latter reveals the extent of a latent ill, such as a brain tumor, sclerosis, tabes, degeneracy, progressive paralysis, etc. The mental confusion that follows shell shock soon disappears when the soil is healthy. He insists on the necessity for early correction of contraction and paralysis, before they became inveterate, and describes the means for this and other fields of psychotherapy.—J. A. M. A. 68: 1512, May 19, 1917.

Presse méd., Paris, 25: 217–21, April 16, 1917. Present Status of War Neurology (Editorial)

This comprehensive review is peculiar in that while recent discoveries and achievements in neurology are described in detail no names are mentioned, and the article is unsigned. It opens with the statement: "If the tax on war profits were applicable to scientific acquisitions, then neurology of all the domains of medicine would have to pay the heaviest tax. For during the last three years it has been enriched in a surprising manner. The war has applied to man experiences hitherto made only on laboratory animals, and the creation of 'neurologic centers' for the wounded has resulted in definite conclusions by the various groups of experts at these centers, and the conclusions are practically identical." The principal scientific truths thus acquired and their practical application are discussed in detail in respect to the brain, spinal cord and nerves, reflex paralysis, neuroses and psychoneuroses. Prostheses to correct sciatic and radial paralysis are among the later acquisitions. The neurologic centers have proved particularly useful in detecting and sifting out the hysteria element. Very few cases of hysteria get past them. It is remarkable that the principal forms of hysteria manifestations are found to be the same at all times, at all ages and in all countries, and persuasive electrotherapy and imperiously applied psychotherapy are proving as effectual for war hysteria as under other conditions.—J. A. M. A. 69: 74, July 7, 1917.

Castex, André. Reeducation in War Deafness (La rééducation des sourds de guerre) Bull. de l'Acad. de méd., Paris, 77: 817–18, June 26, 1917

The article consists of an outline, with presentation of cases, of the work done in reeducating deaf soldiers through a course of treatment inaugurated in 1916 at the National Institution for Deafmutes at Paris.

Camus, J. Difference between Results of Injury of Nerve Centers in Peace and in Wartime. Paris méd. 7: 1-5, July 7, 1917

This issue of the *Paris Médical* is devoted to various neurologic questions clamoring for solution. Camus relates that time has demonstrated that in many cases of supposed irreparable paralysis and other nervous affections from war wounds, great improvement has been gradually realized. But for those with paraplegia, eschars and sphincter trouble, or hemiplegia or contracture with frequent epileptic seizures, special provision must be made. He discusses this in detail, and the functional and professional re-education of these *grands infirmes du système nerveux*. He reiterates that they do not belong in the surgical services, and they cannot be sent home, as without specialized care complications would soon develop, but they should be near their families, and their quarters should be made as homelike and attractive as possible. Their future depends on the care and encouragement they receive now, and astonishing cures may be possible.—J. A. M. A. 69: 676, Aug. 25, 1917.

Babinski, J., and Froment, J. Association of Reflex Nervous Disturbances with Hysteria in the Wounded. Presse méd., Paris, 25: 385-86, July 9, 1917

Babinski and Froment admit a reflex element in certain motor nervous disturbances in the wounded, but say that this does not last. Its place may be taken, however, by a hysteric contracture, so that treatment for hysteria may ultimately cure when at first it had no effect on the nervous trouble.—J. A. M. A. 69: 676, Aug. 25, 1917.

Marie, A., and Rodiet, A. Occupational Training of War Cripples. Progrès méd., Paris, 32: 269–71, Aug. 11, 1917

Marie and Rodiet discuss a bill that has passed the lower house and is now before the French senate. It is based on the two principles of the obligation to ensure professional re-education of the wounded and mutilated soldiers, and that this should not encroach on their pension. By ensuring assistance to all disabled soldiers who are yet capable of steady occupation, the law thus provides for the most numerous category of the mutilated. It does not apply, however, to the severely crippled or to those incapable of sustained wage-earning occupation who will find their place in the soldiers' homes, and those unable to benefit sufficiently by training after it has been given a thorough trial. Marie and Rodiet urge that the present bill should be amplified to include special provision for the "mentally disabled," the neurasthenic, the depressed, the confused, and those disabled by derangement of the nerve centers. Most of them have a home and a family to return to. But those who have no home, what is to become of them? Some provision should be made for them instead of keeping them on indefinitely in the hospitals. Their suggestion is that the nervously and mentally disabled of this type should be boarded out in families in country districts. This method of assistance offers a more cheerful and a saner life than hospital existence in towns. It conforms better to the aspirations of the individual and to mental and physical hygiene. It also spares the public funds the enormous expense of hospital care for so many with grave chronic affections and those

disabled beyond steady wage-earning capacity. This plan of boarding out in the country the chronic invalids was proposed before the war by P. Fleurot to relieve the over-crowded Paris hospitals.

This method of boarding invalids out in country families has long proved its usefulness in the other countries of Europe, and in France it has been successfully applied since 1892 for a large number of the chronic insane who are not getting any further benefit from hospital treatment. The board in charge of the war cripples, provided for in the bill, could assemble these mentally disabled in certain villages or small towns, letting them choose the family with which they wish to make their home. The board paid must not encroach on the man's pension. These disabled might be capable of some light work, possibly home work. Bergonié has recently reported astonishingly fine results obtained in the correction of motor sequels of war wounds by graduated farm labor. The authorities in consequence are already organizing small agricultural sanatoriums in connection with the institutes for physiotherapy. By extending this system, the mentally and nervously disabled would find homes and excellent conditions for restoration to normal.—J. A. M. A. 69: 1206, Oct. 6, 1917.

Mairet, A., and Durante, G. Experimental Shell Shock. Presse méd., Paris, 25: 478–79, Aug. 16, 1917

Mairet and Durante reproduced with rabbits the violent shock from explosion of a large shell in the close vicinity without direct contact with particles of the shell. Five of the twelve animals died in the course of five minutes, one hour, or one to thirteen days. The others after a brief stunned condition, with acceleration of the respiration and transient agitation, rapidly recovered and were slaughtered later. Minute hemorrhages were found numerous in the lungs spinal cord and nerve roots, and a number of small vessels in the gray substance of the cortex had ruptured into the sheaths of lymphatics. The smallness of these hemorrhages and the fact that they did not diffuse testify that they occurred instantaneously in consequence of the depression which followed the compression. These histologic hemorrhages entail anemia of the small territories beyond them, which explains the areas of softening to which Jumentié and Claude have called attention. These very numerous but very restricted lesions correspond to the symptomatology of men suffering from shell shock, especially the amnesia which may result from the anemia in certain small areas, the neuralgias, and the pains at the emerging points of the nerves. The latter correspond to the intraradicular hemorrhages found in the rabbits. This may also be the explanation of certain cases that have been published in which the clinical picture of tabes came on suddenly after shell shock, with negative Wassermann reaction and a rapid course. It may also explain the galloping course of general paralysis after concussion from an exploding large shell.—J. A. M. A. 69: 1386, Oct. 20, 1917.

Podiapolsky, P. P. Hypnosis in the Field Hospital (La suggestion hypnotique à l'hôpital de camp) Paris méd. 7: 165–70, Aug. 25, 1917

Podiapolsky writes from Saratov in Russia to call attention to the way in which he has sometimes been able to free the wounded from suffering by hypnotic suggestion that there was no pain or by throwing them into a hypnotic sleep. He describes in detail a number of peculiarly distressing cases in which the immediate relief was most welcome. In war conditions he has found that the men responded with exceptional facility to hypnosis; he found only about 2 per cent quite refractory. In conclusion he exclaims, "Why give chloroform to subjects who at a word drop off into an artificial deep slumber, which can be counted on in about 17 per cent of the cases." Even the first degrees of hypnosis permit operations with much less of the general anaesthetic than would

otherwise be necessary. He has found it useful for the wounded of all the nationalities that he has encountered, Slavs, Teutons and Italians. He does not advise the hypnosis for major operations but mainly for the sensory crises of psychic origin, such as the pain felt apparently in a limb after it has been amputated. A single hypnotic sitting may cure completely distressing pains of this nature. Podiapolsky's polyglot environment caused trouble sometimes, as he did not always know the word for "wake up" in the patient's own tongue. Now he makes sure of this before attempting the hypnosis.—J. A. M. A. 69: 1204, Oct. 6, 1917.

Gallavardin, L. Soldiers with Disordered Action of the Heart (Les tachycardiques) Arch. des maladies du coeur, Paris, 10: 408–38, Sept. 1917

Gallavardin reproduces with comment most of the report recently published by the British Medical Research Committee on the soldiers returned as cases of "disordered action of the heart" or "valvular disease." In 150 cases in his own experience, the condition was serious in only two, the pulse from 110 to 150 and the blood pressure 170 to 180 mm. mercury; in all the rest no organic cause for the tachycardia could be discovered. In the grave forms the pulse ranged about 100, the pressure 160 mm., but even climbing one flight of stairs sends the pulse up to 170 or 180, and it does not subside to the former figure for five minutes or more. Sedentary service has to be found for the men in this class. Below the moderate cases, in the mild group, the pulse keeps between 60 and 80, occasionally reaching 90, with pressure of 140 or 145 mm. It may run up to 150 but subsides to the former figure in a few seconds after reclining. Men in this group can be set to driving artillery wagons and the like, to spare them from wearing a knapsack and long marching.

Gallavardin comments on the large numbers of these "tachycardiacs" we are encountering when before the war we had scarcely a suspicion of this vast field of nonorganic cardiac pathology, this tribe of men with palpitations, shortness of breath, and disordered action of the heart with no organic lesion to be found. He emphasizes that the war did not create this category of "cardiacs"; it merely has revealed them. These "cardiacs" existed just the same before the war, but they never felt the need for consulting a physician on this account, and merely sought light occupations behind counters, etc. The profession at large knew nothing of this army of nonorganic tachycardiacs, and the army physicians seem to have paid no heed to these men who were constantly dropping out of long marches and excused from carrying the knapsack. Those that did not drift into sedentary services were discharged from the army labeled endocarditis or hypertrophy of the heart. Consequently the profession during the first year of the war was amazed and skeptical at the wholesale dismissals from the army for endocarditis, tachycardia, etc., when the most skilful auscultation revealed nothing wrong. But they had to yield to the evidence, and recognize that there is a whole series of physical disabilities in this line—at least partial disability—which is at least as important as that due to organic heart disease. Infectious diseases have a great influence on the development, or rather the aggravation of these tachycardia neuroses, but a constitutional nervous predisposition is plainly evident in most of the cases. The overexcitability of the sympathetic system is not confined to the heart innervation.

He compares his 150 cases with those analyzed by the British committee, saying that time alone will tell the future of these cases. Aside from the graver cases, he does not think there is serious danger for the heart. Their rapid heart beat makes them poor runners, just as their emotional instability and trembling make them poor marksmen. Their dyspnea from exertion is never accompanied by hypertrophy or dilatation of the heart. The probabilities are that this overexcitability of the nervous system will calm down as they grow older. He queries

whether this special circulatory excitability may not predispose to vasomotor paralysis in the course of various infectious diseases, and thus be responsible for the fatal outcome. The tachycardia is regularly paired with hypertension, and this may be an element of danger, setting up stable processes of hypertension. Still further peril lies in the possibility of actual organic disease developing in a heart overworked by this tachycardia. He adds that in 500 young men, all free from organic valvular disease and tuberculosis, the pulse rate during the revision examination was from 50 to 75 in 2.6 per cent; from 75 to 100 in 25.6; 100 to 125 in 36.6; 125 to 150 in 27.2, and from 150 to 175 in 8 per cent. All of course were emotionally excited, but the figures illustrate the wide individual variation.—J. A. M. A. 69: 1832, Nov. 24, 1917.

Damaye, Henri. Functioning of an Army Psychiatric Clinic. Progrès méd., Paris, 32: 362–64, Oct. 27, 1917

Damaye analyzes 638 cases of mental or nervous affections that passed through his service last year. The mental disturbances were usually transient when the men were kept back from the front. The proportion of the persisting and incurable cases is surprisingly small in comparison to the more or less prompt recovery of the others. The mixed cases are especially numerous, namely, those in an intermediate stage between mental debility and dementia praecox, with and without delirium, or between hebephrenia and actual loss of mental balance. Hystero-epilepsy and hystero-neurasthenia were particularly frequent. The various types of mental anomalies are listed; the largest group was 71 cases of melancholia with notions of persecution; 39 cases of melancholia with a neurastheniform state; 51 of acute brief attacks of delirious excitement with hallucinations, and 37 of simple mental debility. In 24 cases there was desire to commit suicide; in 19 malaria was commencing, and in 399 there was slight albuminuria, with more or less imperfect compensation of some heart defect. The albuminuria disappeared in most of them after a week of rest, but in others it persisted unmodified. The etiology of these nervous and mental disturbances is complex, predisposition, emotions, intoxications and fatigue all cooperating. The attacks of convulsions nearly always coincided with exhausting fatigue. Syphilis is a predisposing factor in the mental disturbances, and a combination of malaria and alcoholism, but all the mental and neuropathic troubles and even the syndrome of general paralysis can be started by some concussion mishap. This "presses the button" as it were. Treatment in all cases is to give at once a bath at 37 C. for one-half hour if the man is tranquil, and for an hour at 40 C. if he is excited. A calomel purge is then given and the man put to bed. The baths are repeated daily and no food but milk is allowed for two or three days. If the urine findings are negative, he is then given the restricted and then the full milk-vegetable diet. By this means the effects of the digestive disturbances, etc., are overcome. No wine is ever allowed; milk or "glyzin" are the only beverages given. The patients are all given, besides, a solution of 40 drops of tincture of iodin in 100 gm. gum mixture, fractioned, during the day. This is kept up for five to ten days. It serves to sterilize the digestive tract, promote leukocytosis, and acts as a general tonic. Cold baths are not advisable, but, if conditions call for it, a daily injection of 5 cg. of sodium cacodylate is given. When there is much mental distress, morphin is the resource and the much excited patients are given, besides the baths, 4 gm. of chloral in 120 gm. of gum mixture at night and possibly a very cautious injection of hyoscin hydrobromate. The most practical arrangement for the psychiatric service is to have an advanced station, moving with the front lines, and, farther back, where all is quiet, a psychiatric center and a neurologic center to which the men can be evacuated from the advanced station. The evacuations should always be in charge of specialist attendants.—J. A. M. A. 70: 68, Jan. 5, 1918.

Babinski, J., and Froment, J. Hystérie-Pithiatisme et Troubles Nerveux d'Ordre Réflexe en Neurologie de Guerre. Paris, Masson, 1917

Any work by Babinski, perhaps the logical successor of Charcot in French neurology, should be well worthy of study. The present volume is virtually three monographs in one, of which the first deals with hysteria, the second with reflex disorders, and the third with the association phenomenon. Babinski, who coined the word "pithiatism," uses it here as a synonym for hysteria. Literally it means "curable by suggestion." However happy the conception of the term, it has never come into general use, so that the author retains the term hysteria in the title of the work. The volume is a rich one and contains an extensive bibliography. . . .—Med. rec. 92: 79, July 14, 1917.

Roussy, Gustave, and Lhermitte, Jean. Psychonévroses de guerre. Paris, Masson, 1917. (Collection horizon)

It would seem that something new of interpretative value might find its way into the literature of the psychoneuroses of the war. Such suggests itself as the promise of this book. The authors' recognition of the ability of the men to react upon the firing line to violently adverse conditions as contrasted with the failure to withstand the after effects when returned to the rear, in hospital or in camp, seemed to promise some revelation of the deeper psychic reactions at work.

These hints of something new to be revealed from the fruitful field of war conditions are however lost in a mass of descriptive detail, which only follows long accepted formulas of diagnosis and method of approach. It is true that the symptoms and manifestations thus reviewed are multiplied and exaggerated by the exigencies of war and thereby offer much material for observation and investigation. Just here therefore the reader expects enlightenment and quickened understanding to follow. Here under these exceptional conditions this branch of medical practice should be able to enter in an unusual way into the study of human reactions and ability or inability to adjust to the demands even of such an environment, in which health or sickness lie. Here there should be unmistakable opportunity for a penetrative appreciation of an individual energy in a grapple with a difficult environment and revealing the strength or weakness which make up nervous and psychical adaptation or failure. This should then be the opportunity for a therapy which receives to itself a wealth of interpretation while applying its understanding to these problems.

There is some approach to this in the value laid upon the personal factor and the psychological aid to be rendered in the reeducation of the soldier to make him equal to his task at the front again if possible. But any real psychological understanding and summarizing of the situation is obscured amid the discussion of symptoms, in which the emphasis is laid upon the variety of phenomena produced and the superficial means of combatting each symptom in turn. Reliance upon the already well worn concepts of pithiatism, and other such superficial terms, strengthens the great fault of shutting the eyes to a dynamic reality that works far more potently in the causation of these disturbances and more effectively when it enters into the therapy.

This book, like many others, leaves much to be said about the underlying factors at work in producing these psychoneurotic reactions to the conditions of war. It is to be hoped that the psychiatrists of our American units will awaken to the opportunity to apply the energic psychology to the varied psychopathological material which this war presents.—S. E. Jelliffe, J. nerv. and ment. dis. 46 : 310, Oct. 1917.

GERMAN LITERATURE

Periodicals Abstracted

Archiv für Psychiatrie und Nervenkrankheiten
Beiträge zur klinischen Chirurgie
Berliner klinische Wochenschrift
Correspondenz-Blatt für Schweizer Aerzte
Deutsche medizinische Wochenschrift
Deutsche Zeitschrift für Nervenheilkunde
Klinik für psychische und nervöse Krankheiten
Medizinische Klinik
Monatsschrift für Psychiatrie und Neurologie
Münchener medizinische Wochenschrift
Neurologische Centralblatt
Wiener klinische Wochenschrift
Wiener medizinische Wochenschrift
Zeitschrift für die gesammte Neurologie und Psychiatrie

GERMAN LITERATURE

Auer, Max. Statistics and Symptomatology of the Mental Disturbances Occurring in the Navy, Especially Catatonia, Pathological Intoxication, Imbecility, and their Legal Determination. Archiv für Psychiatrie und Nervenkrankheiten 49: 265–316, Dec. 1911

This article serves to illustrate what is being done in special psychiatrical work in the German navy. Various cases are quoted, expert opinions given, and conclusions drawn. The paper is of local rather than general interest, but as an example of painstaking psychiatric work among a special class, it is of distinct general value.—E. W. Taylor, J. of nervous and mental disease 39: 494, July 1912.

Bonhöffer, K. Psychiatry and War. Deutsche med. Woch. 40: 1777–79, Sept. 24, 1914

Bonhöffer reiterates that the protection of the other troops is the first thing to be thought of when mental disease develops in a soldier at the front, and as the tranquil surroundings so necessary in treatment of nervous and mental disease can be obtained only in the home zone, the patient should be hurried thither as fast as possible. To facilitate transportation and the protection of the troops against imitation psychoses, he suggests that nothing seems to act better than 0.0005 to 0.001 gm. scopolamin with 0.01 or 0.02 gm. morphin. Morphin alone is inadequate. He states that during the mobilization of Germany a number of cases of delirium developed, all without physical complications. The emotional stress of starting for the war, the fatigue of long journeys and the deprivation of alcohol were responsible for the delirium in persons in the corresponding stage of chronic intoxication.—J. A. M. A. 63: 1703, Nov. 7, 1914.

Weygandt, W. Psychiatry in the Field (Versorgung der Neurosen und Psychosen im Felde) Med. Klin., Berlin, 10: 1503–05, Sept. 27, 1914

Weygandt says that, contrary to the practice under other conditions, the aim should be to hurry the patient away at once, stupefy him with a narcotic if necessary, and also use force if unavoidable; even a strait-jacket may be needed. The main thing is to get him out of the battlefield environment at the earliest possible moment and the less he remembers of the journey the better. There is no special war psychosis, but war is very liable to fan into a flame a latent predisposition to epilepsy, hysteria, slight imbecility and manic-depressive or catatonic attacks, or syphilitic brain or spinal-cord trouble. Prompt removal of those affected is important, not only for their own welfare, but even more on account of the effect on other soldiers. A kind of "mass psychosis" is liable to develop in a time of panic, such as occurred at Kirkilisse and Lule Burgas in recent years. He cites figures showing that psychoses developed in 0.54 per thousand of the German troops during the Franco-Prussian war; in 2.7 per thousand of the United States troops in the Cuban war; in 2.6 per thousand in the British during the Boer war, and in 2 per thousand in the Russian troops during the war with Japan, while the records show only 0.33 per thousand among the Bulgarian troops in the late Balkan campaigns, 0.25 in the Montenegro troops and also in the Servian troops, and 0.097 per thousand among the Grecian troops. He ascribes the difference between the Russian and the Balkan figures to the liquor-drinking among the Russians. He does not offer any explanation, however, for the large numbers among the German expedition corps in South-

west Africa, 4.95 per thousand; including cases of epilepsy and hysteria, 8.28 per thousand of the troops were thus affected.

Heat stroke and concussion of the brain require complete rest on the spot; the former may need venesection, cold applications, revulsion, inhalation of oxygen, saline infusion, lumbar puncture, atropin, quinin, ergot, or epinephrin. Massage of the heart might also be considered in case of complete collapse. Rest and analeptics are likewise the best measures for treatment of concussion or commotion of the brain; this may occur merely from the impact of the air from a passing bomb. Unconsciousness with severe shock may be induced by the air alone, as the shell passes, and such severe shock with incontinence generally proves fatal. When there is shock with vasomotor paralysis, the head should be placed low and autotransfusion done by tying off the legs and abdomen, applying heat at the same time. He emphasizes the extreme importance of keeping an outlook for symptoms indicating an impending psychosis or serious nervous or mental disease.—J. A. M. A. 63: 1704, Nov. 7, 1914.

Marburg, Otto, and Ranzi, Egon. Bullet Wounds of the Brain (Erfahrungen über die Behandlung von Hirnschüssen) Wien. med. Woch. 27: 1470–73, Nov. 12, 1914

The article is a report of treatment of thirty-three cases of bullet wounds of the brain. Twenty-nine of these cases were operated upon. The cases are described in detail and classified according to the type of wound. The authors draw the following conclusions:

1. All cases of tangential shots, in so far as they make a radial impression upon the skull and cause general and focal symptoms, must be operated upon.
2. All cases in which the projectile is arrested near the surface should be operated upon.
3. Cases in which the bullet is deeply imbedded may be operated upon, but prognosis is unfavorable.
4. Cases with initial prolapse of skull contents are rarely operable.

Harzbecker, O. Injury from Shell without Direct Contact (Aetiologie der Granat-Kontusionverletzungen) Deutsche med. Woch. 40: 1985, Nov. 19, 1914

Harzbecker analyzes four cases of hemiplegia following the air concussion from a shell bursting from six to twelve feet away. The symptoms and course of the disturbance indicate that the air concussion burst a blood-vessel in the brain, lung and eye. In two cases there was a typical apoplectic attack, leaving hemiplegia. When such a concussion proves immediately fatal without signs of external injury, there is probably some small hemorrhage into some vital part, like the respiratian center, or profuse internal hemorrhage.—J. A. M. A. 64: 85, Jan. 9, 1915.

Oppenheim, Hermann. War Neurology (Zur Kriegsneurologie) Ber. klin. Woch. 51: 1853–56, Nov. 30, 1914

Oppenheim is in charge of what he calls the Nerven-Lazarett at Berlin with 100 beds, exclusively for soldiers with nervous affections. Neuroses and psychoses are not so frequent among the troops as anticipated, and as a rule they develop only in the predisposed, either by previous nervous or mental affections, trauma affecting the head, or abuse of alcohol. The vasomotor sphere seems to be peculiarly affected in these war neuroses. The syndrome of exophthalmic goiter developed in one officer, but disappeared again after a six weeks' rest cure. Oppenheim has been impressed with the remarkable variety of the symptoms that may follow a gun-shot wound of the head. The

destruction caused by the bullet on its way is responsible for them, not the bullet itself, he thinks.

When a bullet hits the spine and swerves aside, the impact may cause hemorrhage in, softening or acute necrosis of the spinal cord, even with intact vertebrae. What to do in these cases is a problem. He operated in five, but learned nothing definite except possibly that signs of a total lesion of the cord do not contraindicate operative measures unless of several months' standing.

The sensory nervous system participates to a remarkable extent in gunshot wounds of the peripheral nerves; sometimes the sensory fibers alone seem to be injured. The agonizing pains are relieved only temporarily by morphin in large doses. These pains seem to occur only when the nerve is partially injured and not when the injury blocks the entire nerve, as a rule. He has had several cases in which the bullet had injured the sensory fibers and no others in the sciatic nerve. There was anesthesia of the sole, while the motor functioning and electric excitability were normal. These experiences confirm Stoffel's views on treatment of spastic paralysis.

The psychic and remote vasomotor and secretory phenomena in some cases suggest that the impact of the projectile caused a wave of molecular changes in the various parts of the central nervous system. The terrific mauritic pains were sometimes relieved by a hot bath or superheated air or a plaster dressing. The pains usually become attenuated in time, but this may require months.—J. A. M. A. 64: 290, Jan. 16, 1915.

Jörger, Johann. Mobilization as a Traumatic Cause in Producing Dementia Praecox. Corr.-Bl. für Schweiz. Aerzte 44: 1553–70, Dec. 12, 1914

Dr. Jörger's paper is based on experience at the Zurich Asylum. As Switzerland is not at war, the effects of simple warlike preparations can be studied apart from those produced by war itself. In his paper he relates the particulars of thirteen soldiers who were called up on mobilization, and who soon after developed insanity, of the dementia praecox type. In analyzing these cases he finds they fall into three groups. In the first the symptoms of dementia praecox had been present in a mild form for some time previously. The stress of mobilization merely added fuel to a fire already burning. In the second group there was a history of previous attack which had been recovered from. In the third group the patients had previously been perfectly well. This forms the largest of the groups. Some of these recovered quickly, especially those in which alcohol was a complicating factor, but others improved very slowly, and seemed likely to be incurable. In addition to these he relates the cases of four women who became insane as a result of excitement produced by war. It is noteworthy that in all of them, as well as in some of the men, there was a great dread that they would be shot or experience a sudden and violent death. He does not state whether any other form of mental disease besides dementia praecox has been met with by him as a result of mobilization. He likewise makes no suggestion as to why this form so frequently results from that cause, except in the first group mentioned above. It is probable that, like many others, he considers dementia praecox to include nearly all cases of insanity occurring between puberty and senility.—Edin. med. j. new series 14: 398–400, May 1915.

Meyer, E. Psychoses and Neuroses in the Army during the War (Psychosen und Neurosen in der Armee während des Krieges) Deutsche med. Woch. 40: 2085–88, Dec. 17, 1914. References

War affords the best opportunity to gain an insight into the etiological factors of psychic disturbances, for, although privations, lack of sleep, etc., may play some part in causation, the main factors are the events superimposed upon the conditions of war. In recent years much attention has been given to the

study of such disturbances as are caused by great disasters, such as earthquakes, mine accidents, etc. But in war, conditions are somewhat different; not a limited number of individuals are affected, but the whole military and civil population. Also, there is opposition of the so-called positive and negative emotional tones; according to the type of warfare and to general existing conditions, the one or the other may prevail. Since positive feelings have the upper hand just now in the German nation, the interest of the individual as such has to subordinate itself to the great general aim of the nation; thus, the individual, as a part of this great whole, is given power for extraordinary mental and physical exertion. This fact makes it clear that events in the wake of the war will have an influence upon the psychic mechanism of individuals of a very different nature from that exerted in times of peace.

After these introductory remarks, the writer reviews the subject of mental and nervous diseases as found in the army and navy in peace times.

In the so-called civilized countries, 3 to 4 mental and nervous cases are found per 1,000 of the population. The proportion in the military services of the respective countries is much lower, probably because they are composed of the best men of each nation. In the navy, figures are higher than in the army because of the greater hardships and exposure of life at sea. No distinct "military psychosis" is found; the psychoses and neuroses of army and navy life are of the same nature as those found in civil life. The type of disease, however, varies considerably according to the military position of the sufferer. Officers exhibit forms of trouble usually associated with maturity (30–40 years) such as paralysis, arteriosclerotic brain diseases, alcoholism and alcoholic psychoses, and neurasthenia. Among privates are found the psychoses and neuroses of youth—dementia praecox, manic-depressive insanity, hysteria and epilepsy. Frequently these diseases are not caused by military service, but only developed, from latent conditions, by wartime experiences. This is particularly true of mental defect and psychopathic diathesis, including degeneracy.

Official statistics show an increase in these diseases during the Austro-Prussian war (1866), then a gradual decline until the beginning of the Franco-Prussian war in 1870–71, when there was another decided increase, followed by a decline the next year and a sinking below the average in 1874. The same report from which these statistics are taken states that mental disturbances were often sequelae of dysentery, typhoid fever, and head injuries. There is also mention of a so-called "neuropathic condition" coexistent with psychoneurotic disturbances. This manifested itself in states of susceptibility to exhaustion, depression, ill humor, lassitude, incapacity for systematic work, twilight states, sleeplessness, irritability, anxiety and occasional suicidal tendency. All reports of that time agree that there is no special war psychosis; also, that war tends to aggravate mental and nervous disturbance.

Similar statistics of the Spanish-American and the Boer wars show at first a very slight, followed by a much greater, increase in the number of mental cases, probably due to the fact that the hardships of war increased with each succeeding year.

During the Russo-Japanese war the proportion was 2 mental cases for each 1,000 men of the army. The proportion in civil life was 4 per 1,000. Alcoholism was the most pronounced etiological factor. In times of peace cases of paralysis were much more numerous than those of alcoholic psychosis, but in wartime mental disturbances caused by alcoholism amounted to 50% of all mental cases. A Japanese observer states that typhoid fever and beri-beri were also primary causes of mental trouble.

In the present war percentages are as follows:

65% of all mental diseases affect the militia (Landwehr) and reservists.

11.5%, those drafted from the general population (Landsturm).

8%, first reserve.

6.5%, volunteers.
5%, officers of the Landwehr and reserve.
3.5%, officers of the regular army.
5%, privates and non-commissioned officers.

As to the various kinds of diseases the following figures were obtained. Psychoses in the strictest sense of the term were rarely found:

Dementia praecox	7.5%
Manic-depressive insanity	4.0%
Paralysis	3.5%
Chronic alcoholism	16.0%
Acute alcoholic psychoses	5.5%
Epilepsy	11.5%
Psychopathic diathesis	13.5%
Pathologic reactions	18.0%
Traumatic neuroses	6.0%
Mental defect	8.0%

A few additional cases were observed of symptomatic psychoses following organic diseases, head injuries, morphinism, etc., and a number were not clearly diagnosed.

Dementia praecox cases showed no variation from the usual type, except that sometimes there were marked ideas of persecution. All cases of manic-depressive insanity showed congenital mental inferiority. The onset of the trouble was usually caused by the effects of separation from home and family, and anxiety about wife and children left to flee unprotected from the invading Russians. Symptoms were intense depression and anxiety, both of a resistant type; impulsiveness and desire to do great deeds, such as capturing an enemy aeroplane, a spy, or a Cossack. All of these cases manifested themselves early in the campaign.

Cases of paralysis were few.

Chronic alcoholism showed itself early in the war. These men hampered the service by apathy or irritability, periods of intoxication, epileptiform states, and states of mental confusion in which they would leave their regiment and wander about the country. They exhibited cases of acute alcoholic paranoia, with hallucinations connected with some fear caused by the war, such as combat with the Russians, the accusation of being a spy, dread of being accidentally shot by comrades, etc. Sometimes after cure, traces of residual insanity were found, such as lack of will power and suicidal tendencies.

Acute alcoholic psychoses were especially frequent at the beginning of the war. The most striking and frequent symptoms were auditory disturbances.

Cases of epilepsy were comparatively few. Some had had previous attacks, others not. Some manifested themselves during the first days of military service, others not until they had reached the front. The malady in some cases was aggravated by war conditions, in others it was apparently not.

Cases of twilight states were frequently found who showed no past history of epilepsy or of psychopathic diathesis.

The cases classified under psychopathic constitution exhibited clinical pictures of neurasthenia, nervous irritability, and general nervous troubles, such as headache, backache, vertigo, etc., and eccentric individuals with a tendency to seclusion, hypersensibility and with all kinds of queer habits.

Some men of intellectual ability and of strong patriotic ardor exhibited psychopathic traits. All kinds of mental and moral conflicts, sometimes resulting in suicidal attempts, characterized this group. As a whole, however, they should be considered fit for military service, for in some cases military life has a beneficial effect upon this type. The same applies to morphine addicts.

The cases included under pathologic psychogenic reactions suffered from nervous or mental disturbances, due to a psychic cause, which were often ac-

companied by local nervous affections. Symptoms were intense irritability, depression, susceptibility to exhaustion, lack of energy, headache, vertigo, buzzing in the ears, motor and sensory paralyses, hemiplegias, astasia, abasia, anesthesia, cramplike attacks, tremors, etc.

As to the physical symptoms, the sudden onset, localization and distribution, the peculiar objective conditions under which they appeared, their clinical course, and finally the absence of all organic phenomena were ample evidence of their psychogenic nature. The frequency of motor and sensory disturbances, in contrast to their lack in such troubles originating in times of peace, was most striking; also, the great therapeutic value of mental suggestion for these patients.

The clinical picture showed a marked tendency to irritability and crying fits, even in the case of mature men of proven valor, hypersensitiveness, ill humor and great lack of will power shown in loss of self-control.

Etiological factors in the genesis of such states are explosion of shells in the vicinity of the patient with no resulting physical injury, the monotony and rigor of trench life, and, in some cases, predisposition. The same description applies to cases of traumatic neurosis.

The majority of cases of mental defect were found among the reservists; some exhibited Ganser's syndrome; others, states of excitement or depression. Binet tests were used in examining these patients.

A frequent and peculiar form of mental unbalance was the "spy craze"—seeing spies everywhere and in everybody, even in officers and comrades, with suspicions mounting to a most abnormal degree.

Bonhöffer, K. Psychiatrisches zum Kriege. Monat. für Psych. u. Neurol., Berlin, 36 : 435–48, Dec. 1914

This article, written during the first few months of the war, deals chiefly with the mental disorders developing while the army was mobilizing. Out of 100 officers and men declared incapacitated for this cause, 66 were persons of psychopathic constitution. The reason for this is probably that the recruiting brings together many psychopathic individuals who in spite of their abnormality have been able to get along during times of peace, but who during the excitement and anxiety attending the mobilization show emotional and other disturbances. These persons, even if they are placed in hospitals and recover from their episodes, are prone to become upset again if they return to the front. It is better then to keep them permanently away from the firing line. Several charts are given showing the statistics of various armies as to mental disease. In each army where the country has been at war at any time there is a marked increase in insanity. A striking fact, however, is that the greatest increase comes at the end of the war and during a year or two following. This is due to several circumstances. Probably one important reason is that more careful examination and elimination is possible after the war than during it when there are so many other things of more pressing moment to attend to.—J. nerv. and ment. dis. 46:296–97, Oct. 1917.

Bruns, L. Observations and Conclusions about War Neuroses (Kriegsneurologische Beobachtungen und Betrachtungen) Neurol. Centralbl., Leipsic, 34: 12–15, Jan. 2, 1915

The author feels that much more is said and written about war neuroses and psychoses than is necessary. He has found them among his cases, but they showed hardly any new features. Among these were a typical case of pseudospastic paresis with tremor, a few cases of hysterical contracture, and a case of abasia.

The consequences of violent shell explosions nearby without external injury are as yet but vaguely known. Here functional and organic symptoms may occur side by side. Labyrinthine disturbance (vertigo) is an attendant phase.

The writer then discusses, from his observations, skull and brain injuries and their symptomatology and prognosis; lesions of the spinal cord are taken up briefly; the article closes with a detailed consideration of peripheral nerve injuries. Early operation is advocated.

Von Sarbo, A. Micro-Organic Changes from Shell Explosions (Über den sogenannten Nervenshock nach Granat und Schrapnell-Explosionen) Wien. klin. Woch. 28: 86-90, Jan. 28, 1915

Von Sarbo discusses the commotion caused in the brain tissues and fluids by explosion of a shell nearby, and describes two typical sets of symptoms which he has had occasion to observe in the base hospitals. The cause seems to be something more than merely molecular changes and yet it is not severe enough to be an actual organic injury. He regards it as the result of micro-organic changes, and if the subjects are kept quiet long enough the condition rights itself. The two syndromes to which he refers are brought on only by physical, never by emotional, causes, and they cannot be influenced by psychic measures. They vary with the seat of the micro-organic changes and they are frequently mistaken for simulation or hysteria. All that is needed is complete rest. Frequent examinations and trying one therapeutic measure after another are harmful and are liable to breed a superimposed hysteria.—J. A. M. A. 64: 951, March 13, 1915.

Karplus, J. P. Indirect Effects of Shell Explosions (Erkrankungen nach Granat-Explosionen) Wien. klin. Woch. 28: 145-48, Feb. 11, 1915

Karplus comments as a neurologist on the favorable prognosis of the psychogenic disturbances liable to follow explosion of a shell close at hand. During the first few days there is evidently some physical shock, but under rest and psychic measures, especially the positive assurance of a speedy cure, the man rapidly recovers. The nature of the injury seemed to influence the symptoms less than the preceding state of the nervous system. In the few cases in which the disturbances persisted, unmodified by neurologic treatment, it was learned that the men had been under treatment for some nervous affections before the war. In one case exophthalmic goiter developed after the explosion; in a few others, diabetes.—J. A. M. A. 64: 1116, March 27, 1915.

Singer, Kurt. Psychoses during the War (Wesen und Bedeutung der Kriegs-Psychosen) Ber. klin. Woch. 52: 177-80, Feb. 22, 1915

Singer comments on the comparative rarity of psychoses at the front. When they occur it is generally found that the man had been under medical care at some time in his life for nervous or mental disease. He thinks this relative rarity of psychoses among troops speaks volumes for the sound constitution, mental and moral, of the men. The deprivation of alcohol has not caused by any means the amount of disturbance that had been anticipated. In those predisposed to nervous and mental disease, however, the vicissitudes of the campaign tend to bring them rapidly to full development and even a small amount of liquor is liable to bring on delirium tremens in chronic drinkers after they have been deprived of alcohol for a few months.—J. A. M. A. 64: 1278, April 10, 1915.

Mann, L. Polyneuritis as a Complication of Nervous Conditions of Exhaustion in the War (Über Polyneuritis als Begleit-Erscheinung nervöser Erschöpfungszustände im Kriege) Neurol. Centralbl., Leipsic, 34: 150–57, March 1, 1915

The writer has had ample opportunity, as chief neurologist at a field hospital, for observation of cases.

Neuritis is of frequent occurrence. A form of polyneuritis often accompanying general nervous exhaustion he calls "polyneuritis neurasthenica." Mononeuritis is also common in war cases, especially ischial, trigeminal and neuralgic forms.

In the cases of polyneuritis observed the usual etiological factors such as alcohol and lues were conspicuously absent. All cases showed inception after neurasthenic conditions of exhaustion. Four case histories are cited in detail. These patients had suffered previously from great hardships, intense emotion, and lack of nourishment. They exhibited decrease in weight, a tendency to physical and mental exhaustion, sleeplessness, feelings of depression and inadequacy, moodiness, a sense of pressure in the head, and other symptoms of a neurasthenic condition. Objective symptoms were slightly increased reflexes, tremor, phobias, rapid pulse, etc. These symptoms were accompanied by an extension polyneuritis involving the sensory system. The symptoms of exhaustion disappeared earlier than the neuritic symptoms. Just how the various nerves were involved is described in detail.

Therapeutic measures suggested are above all, rest; then luke warm baths, anti-neuralgic treatment, and the use of the galvanic and faradic currents.

Spielmeyer, W. Treatment of "Traumatic Epilepsy" following a Bullet Shot through the Brain (Zur Behandlung der "Traumatischen Epilepsie" nach Hirnschussverletzung) Münch. med. Woch. 62: 342–44, March 9, 1915

Only those cases in which the injury results in a scar in the tissues of the brain are discussed. This scar is supposed to be the causal factor in the majority of cases in which "traumatic possibility," if it may be so called, gradually develops. Symptoms of cortical spasms and epileptiform fits predominate. Spielmeyer's treatment is based upon the work of Trendelenburg, who after experiment reported that cortical spasms can be stopped by the application of cold. Water heated to 56–58° C. and introduced into the trephined skull of animals excites epileptiform spasms, which have ceased immediately upon the introduction of ice-water into the capsule containing the water. From this the conclusion was drawn that a systematic cooling of the human brain in cases of epilepsy might be of therapeutic value. The writer cites a few case histories in which this treatment had beneficial results but makes no claim that this method is a panacea for those suffering from "traumatic epilepsy."

The remainder of the article is devoted to a detailed description of the surgical procedure advocated by Trendelenburg.

Oppenheim, Hermann. The War and the Traumatic Neuroses (Der Krieg und die traumatischen Neurosen) Ber. klin. Woch. 52: 257–61, March 15, 1915

Oppenheim's original paper (1889) on the traumatic neurosis aroused great dissent among specialists. Opposing authorities, as, for instance, Charcot and his school, identified the traumatic neurosis clinically with hysteria. Most of the objections were aimed at the theory of etiology. The existence of an objective causative influence was questioned, in fact, denied by most, and the cause

sought for in the psychic trauma. Oppenheim admits the importance of the latter, but lays greater emphasis upon injury to the nervous mechanism. Because of their extreme delicacy, the structure and functioning power of the nerve tissues, he believes, may be directly or indirectly impaired in other ways than by purely physical injurious processes, such as hemorrhage, inflammation, degeneration, etc.

The most important practical application of these opposing theories was seen in the problem of malingering and "indemnity hysteria." Many of the physicians in the employ of the great insurance companies, railroad corporations, etc., had had no special neurological or psychiatric training, so they were inclined to see malingering in every case that they could not explain by the obvious lesion of a nerve, the brain or the spinal cord. Even neurologists, proficient in work with organic nervous diseases, but who had had no special training in psychiatry, tended to hold similar opinions. The robust workingman, according to their theory, had no right to have hysteria or neurasthenia. Psychiatrists were now appealed to for a solution of the problem. To them the psychic concussion was the chief factor. This led, indirectly, to the conception of the causative factors as being, not the psychic shock, but the series of emotions aroused by the desire for and the process of securing the indemnity. Thus the traumatic neurosis was reduced to a mere "indemnity neurosis," or, at most, psychosis, and became a fit subject for the comic papers.

This animosity of the profession towards accepting the existence of a traumatic neurosis is partly to be explained by the fact that, after the passing of the workmen's compensation law, physicians and chiefs of clinics had to spend a great deal of their time observing such cases, making out reports, and testifying in the courts. Also, many doctors gave their opinions as experts with great reluctance in cases offering so many weak points to the attacks of the lawyers. Thus the traumatic neurosis fell into disrepute, and, for more than twenty years, was almost forgotten. Fortunately, however, this did not mean that the clinical picture disappeared with the descriptive term. Science, not able to ignore its existence, renamed it "fright neurosis," "emotion neurosis," even "accident neurosis." Only within recent years has the term "traumatic neurosis" reappeared in medical literature. Then came the war.

At first the observations made at the front seemed to confirm the accepted theory of the traumatic neuroses, *i. e.*, that they occur only in the predisposed. The author, however, had ample opportunity, as chief of a large special hospital for mental cases, to submit evidence substantiating his theory of twenty-five years ago. He found that in part only of his cases could previous mental or nervous trouble or congenital diathesis be proved. He established beyond question the fact that in absolutely healthy and mentally normal individuals, without any trace of hereditary taint, war trauma may cause psychoses or neuroses. The causal injury may be of an objective, psychic, or mixed nature. Violent detonations illustrate the mixed type. Their effect upon the nerve of hearing is certainly physical, but the psychic effect—terror—is also an important element in the resulting condition. The enormous air pressure exerted by the close passage of these missiles is another influential factor. An element that tends to complicate etiology is the frequent long duration of the exciting causes (prolonged and continuous artillery fire, a series of injuries received at brief intervals, exhaustion from various causes, lack of sleep, insufficient nourishment, extreme heat or cold, etc.)

As to symptomatology, the following observations were recorded. The clinical picture is seldom a sharply defined and "well rounded" neurosis; in most cases it is confused, yet exhibiting as predominant features the symptoms of severe neurasthenia, viz., headache, vertigo, sleeplessness, depression, irritability, hyperacusis, hypersensibility to all sensory stimuli, general weakness and a tendency to exhaustion, tremors, visceral disturbances, especially cardio-

vascular and secretory, palpitation, tachycardia, congestion, hyperidrosis, slightly high temperature, increased tendon reflexes, and myokymia. In other cases, the symptoms resembled more closely those of hysteria with aphonia, mutism, abasia, paralysis of the extremities, hemianaesthesia, etc. Needless to say, it was often very difficult to prove that these hysterical symptoms were of a psychogenic nature. No spasms of a typically hysterical character were observed, nor was there a single case of globus, although respiratory spasms occurred in two cases. Often it was most difficult to decide whether a case showed predominantly symptoms of hysteria or of neurasthenia. Borderline cases were frequent.

Thus neurasthenia and a combination of neurasthenia and hysteria gave the conditions found in traumatic war neuroses. Other symptoms, not necessarily of a hysterical nature, were often found, such as tics, tremors, muscle-cramps, etc.

The author admits that all these symptoms may be explained upon a psychogenic basis; but the war has proved that their genesis is of a different nature; a double origin is postulable—a central and a peripheral genetic modus, *i. e.*, psychic concussion and injury of the peripheral nerves. A violent impulse from external stimuli causes a functional disturbance of the delicate mechanism of the psychic centers, shown in (1) faulty distribution of motor impulses, (2) hypo-innervation, (3) hyper-innervation, causing tremors, tonic and clonic spasms, etc., instead of single muscle actions. A hysterical temperament may be a cooperating factor in producing motor troubles, akinesia amnestica, spasms, etc.

Reeducation, repeated exercises, and suggestion help to bring about a speedy and complete cure. The patients are usually responsive to treatment and evince a desire for recovery.

In conclusion, the fact is mentioned that these same pathological conditions may often be simply the accompaniments of organic lesions, traumatic neuritis, lesions of the brain and spinal cord, etc.

Gaupp, R. Hysteria in Military Service at the Front (Hysterie und Kriegsdienst) Münch. med. Woch. 62: 361–63, March 16, 1915

The first seven months of the war gave opportunity for much valuable research work in neurasthenia, hysteria, and psychopathy—those borderline states between mental health and disease. One thing has been proved—that the mental health of the German nation is much better than many had thought. Great mental and physical exertion, hunger and lack of sleep were borne without apparent loss of energy. Up to this time the number of mental cases resulting from the war is not large. Exhaustion psychoses caused by lack of and disturbed sleep are the most numerous, and pathological conditions from intoxication are not infrequent. However, as a whole, the nervous system of the nation at arms has shown itself to be healthy.

From December 1914, the number of nervous and mental cases increased considerably because of the tremendous shell explosions caused by the French offensive lasting from the middle of December to the end of January 1915. Many persons in the immediate vicinity of these explosions suffered nervous breakdowns and exhibited pathological states of hyperexcitability. Fright and horror at the sight of dead and mutilated comrades were also causal factors in these conditions. Organic lesions were not necessary to produce these states. If the affected persons had formerly had entirely healthy nervous systems, the disturbance soon passed off, but in men with a nervous diathesis the acute symptoms (paralysis, spasms, mutism, deafness, delirium and twilight states) did not disappear so readily. In the case of very slight affections (headache, vertigo, lassitude, etc.,) there were no other objective symptoms, and, to the casual observer, these patients seemed well and ready for action. But the whole state

of affairs was altered as soon as the physician suggested that they begin active service again. The following day all the old troubles reappeared—disturbed sleep, headache, vertigo, lassitude, apathy or a state of unrest. Reassuring suggestions, that had hitherto been very effective, were no longer of any avail. In such cases, the regular routine of discharge is adhered to: the patient leaves the hospital at once; at the railroad station acute symptoms, often in the form of hysterical delusions, appear; and, upon arriving at his regiment, his condition has become so serious that nothing remains to be done but return him to the hospital. In some patients, the acute symptoms reappear even before they start to rejoin their regiments. In all such cases, there seems to be the one predominating etiological factor—fear and horror at the thought of returning to the front. Opinions as to whether or not soldiers are shirkers and malingerers should be most guarded. Although at the first, the individual may have great enthusiasm, his inner forces decrease gradually in strength as the war progresses, and, some day, when a crucial moment comes, such as a shell explosion close by, which shatters into bits the comrade at his side, his control collapses, the psychic forces give way, hysteria takes possession of him, and the exhausted spirit actually takes refuge, subconsciously, in the disease. The clinical picture of such cases always exhibits fear and anxiety states, all forms of tremor, tics, astasia, abasia, mutism, deafness and delirium. Often after these conditions are cured, chronic hypochondria remains.

When the writer first undertook the treatment of such cases, he tried, by appealing to their sense of honor and patriotism, to get them back into action at the front as soon as possible, but he was gradually forced to the conclusion that such patients are unfit for military service. Experience has proved that the acute symptoms of war hysteria are usually superficial and disappear much more readily when there is no reason to fear recurrence of the hardships and terrors of war. Hence, these men are always capable of making a living and taking their part socially under the conditions of ordinary life, but if they are sent back to the front, they have a relapse and are totally unfit for any kind of work.

The end of the war will bring up for consideration the problem of pensions. This question may also have a decided influence upon the duration of mental and nervous diseases and their recurrence. Another cause of hysterical states other than the conditions of active warfare is lack of the proper spirit of submission to the physical and military exigencies of service. This is found usually among the more mature men of the reserve forces. Other factors are domestic conditions, and, in a few cases, absence of the patriotic spirit. In such cases, the symptoms are usually not very grave and the men are soon returned to the front. Mental suggestion is sometimes temporarily efficacious, but there is usually a relapse at the front.

Since the country now needs every possible man for service, all available means should be used to refit the patients for active service, and, to actual therapeutic measures, the physician should add the appeal to military honor and patriotism. If all these methods fail, only one recourse remains—to give the man patriotic service best suited to his temperament, *not* at the front. For instance, state officials, teachers, and ministers are much more useful at their own occupation than lying about trying to recuperate in hospitals; farmers' sons not able to stand war conditions should return to their farms; thus all will render very valuable service to the state.

Rothmann, Max. Cerebral Physiology and its Services in War (Die Hirnphysiologie im Dienste des Krieges) Ber. klin. Woch. 52: 338–41, April 5, 1915. References

Rothmann refers naturally to the abundant opportunities for the study of cerebral localization from the results of wounds involving the cortex, etc.,

with especial reference to the more exposed frontal area and speech centers. For example, recently an infantry man, aged 37, received a tangential wound of the left lateral aspect of the frontal region. Eight days later a peculiar akinesia of the right arm was noticeable. In attempting to grasp anything he miscalculated in certain directions, and there was also a suggestion of agraphia. The assumption was of an injury of the second frontal convolution. The patient showed confusion and failure of memory. After enlargement of the wound and removal of a speculum of bone, the patient, instead of improving, became worse and a motor aphasia developed. The dura was then freely exposed and incised, and a cavity opened in the second frontal convolution which contained a blood clot and cerebral débris. First, the akinesia and speech disturbances disappeared, and next the sensorium disappeared. There still remained an uncertainty of grasp, the hand being carried too far to the right. This condition usually points to a lesion in the second convolution, provided certain phenomena are absent, and the more decidedly if agraphia and akinesia coexist.—Med. rec. 87: 872, May 22, 1915.

Mayer, Wilhelm. Differential Diagnosis; Hebephrenia versus Conditions of Exhaustion (Differentialdiagnose Hebephrenie-Erschöpfungszustand) Münch. med. Woch. 62: 479, April 6, 1915

After a few introductory remarks concerning the type of psychic disturbance observed up to this time at the front, the author discusses the question as to how great an importance exhaustion has as an etiological factor in psychoses. He reviews briefly results obtained in Kraepelin's school. Formerly exhaustion was considered a very important etiological factor in acute psychoses, but modern psychiatry is inclined to deny this. The majority of cases diagnosed as exhaustion psychoses or conditions of exhaustion are psychopaths who are abnormally subject to over-fatigue, or persons in whom exhaustion plays only a secondary part in a condition having other etiological factors, such as fear, horror, anxiety, etc. Aside from these, there are certainly conditions of pure exhaustion to be distinguished with difficulty from "genuine" psychoses. The case is cited of a volunteer, a young man not very robust physically, who, after great exhaustion, but without any psychopathic diathesis or influence from any causal psychic factor, developed a psychopathic condition that had much in common with the picture of simple hebephrenia. After sufficient rest, the symptoms disappeared and the man returned to the front.

The author warns against too rapid prognosis.

Poppelreuter, Walther. Symptoms of Psychic Deficiency after Wounds of the Brain (Psychische Ausfallserscheinungen nach Hirnverletzungen) Münch. med. Woch. 62: 489–91, April 6, 1915

Poppelreuter has had thirty patients with brain wounds under his care and supervision for months, and has thus learned a number of points with regard to deficit phenomena. Among those he emphasizes is the fact that the capacity for figures may be impaired when there is no actual aphasia. Hence testing with figures is a peculiarly delicate test for injury of the brain. In one shell wound of the left inferior occipital lobe, the man was unable to do any sums in division although no other mental disturbance was apparent. In nearly all the cases of injury of the right hemisphere there was more or less loss of memory. One medical student thus had lost all memory of the chemical formulas and prescriptions he had learned in his eight semesters. Localized injury of the brain entailed not only the specific deficit phenomena but the whole personality was

essentially modified. The results of re-education and training have been very gratifying; hemiplegics are learning to use the typewriter, and the deaf are learning lip reading, etc.—J. A. M. A. 64: 1802, May 22 1915.

Saenger, A. Conditions of the Nervous System Caused by War (Über die durch den Krieg bedingten Folgezustände im Nervensystem) Münch. med. Woch. 62: 521–23, 564–67, April 13 and 20, 1915. Illus.

The author discusses first injuries of the nervous system caused by war. Those of the peripheral nerves are most frequent. They may be caused by missiles, bayonet or sabre, infections or over-exertions. It is often difficult to make a correct diagnosis of such cases, as fractures, lacerations of muscles, myositic processes, ischemic changes in the muscular system, aneurisms and thrombosis may make obscure actual conditions. The left arm is most often injured, especially the radial nerve, but lesions of the median or ulnar nerves also are frequent. It is important to note that examinations of such cases as to the areas of sensibility have shown that the boundaries of these areas are entirely different from those generally described by authorities. Lesions of the brachial plexus are common, causing the most varying forms of motor and sensory disturbance. Paralysis of the legs is often produced by shots through the pelvis. Of the cranial nerves, the facial is the one most often injured; wounds involving the optic and olfactory nerves are less frequent. The author does not agree with the opinion of Oppenheim that the war has given to medical science many new facts about the peripheral nervous system. Oppenheim believes that the excruciating pain caused by partial divisions of nerves has a decided effect upon the psychic, vasomotor and secretory functions. Saenger admits the causation of intense pain by such injuries, but feels that racial differences play an important part in sensibility to pain. Patients from the north of Germany showed less sensibility to pain than those from central and southern Germany, and from the Polish provinces.

Sleeplessness is not to be considered a symptom of nerve lesions; it is a psychic diathesis to neuroses. The following suggestions as to time of operation are made: (1) Do not operate until the wound is completely healed, otherwise infectious neuritis may occur; (2) When the pain is excruciating and medication affords no relief, nerve section may be performed. Non-surgical remedies recommended are absolute rest, hydrotherapy, morphine, and, in cases which are relieved by morphine injections, bromides and phenacetin.

The author now takes up the central nervous system. Some interesting cases of shot through the head are described, and others in which grazing or tangential shots caused functional disturbances involving the second, seventh and third, and the sixth, eighth and first nerves. Other head injuries produced paralysis of the upper extremities, generally curable in from two to three weeks. Lesions of the spinal cord are responsible for the saddest cases in the hospitals. Four groups may be distinguished: (1) complete transverse lesion of the marrow; (2) partial lesion of the marrow; (3) sharply defined lesion involving only one half of the cord; (4) *commotio spinalis*, or shock. The clinical picture of each of these groups is illustrated by the history and clinical course of one case.

In conclusion, the author deals briefly with war neuroses and psychoses. He does not consider a state of sleeplessness of short duration, or a craving for sleep, pathological. The same statement applies to cardio-vascular disturbances, for over-exertion and intense emotion may produce such conditions from physiological causes. Latent dementia praecox and paralysis become acute during war. Epileptics have more frequent and more severe seizures. Hysterics, neurasthenics and hypochondriacs who attributed their condition to war causes showed a history of predisposition or had had symptoms before the war. This was

especially true in the case of fright-neuroses and monosymptomatic hysteria. The existence of a so-called "traumatic war neurosis" is denied, as against Oppenheim's theory that there is a specific condition of this nature.

Gaupp, R. Injury from Shell without Direct Contact (Die Granatkontusion) Beiträge zur klin. Chir., Tübingen, 96: 277-94, April 1915

Gaupp has noticed that the direct effects of the contusion from the air are of extreme variety, as also the various conditions that may be observed afterward. Sudden death from the shock alone is not rare; immediate unconsciousness is common. It may last for hours or weeks and be followed by total loss of memory for the period since the explosion. At the same time, he says, most of what has been described as the effects of the injury are in reality nothing but traumatic hysteria. Schuster has noted that when the shell explodes near a sleeping person, it does not induce the nervous and mental disturbances otherwise observed. This throws light on the importance of the fright as a factor in the shock from an exploding shell. The emotional-neurotic factors are supplemented by the traits for which physical exhaustion is responsible. An exhausted nervous system feels the effect of the explosion more than when the individual is fresh or well rested. Treatment should be mainly psychologic, tranquilizing the patient by repose and verbal suggestion and having his mates rouse him from his stupor by friendly admonitions.—J. A. M. A. 65: 563, Aug. 7, 1915.

Brasch, R. Heart Neurosis with Skin Hyperaesthesia (Herzneurosen mit Hauthyperaesthesie) Münch. med. Woch. 62: 693-95, May 18, 1915

Ever since Head and McKenzie proved that, in diseases of the viscera, pain radiates into the skin and that these diseases manifest themselves there in well-defined, hyperaesthetic areas, such symptoms have become very valuable aids in the diagnosis of internal pathological conditions. The hyperaesthetic diseases of the skin in heart neuroses are not often found, hence little is known of them. They are hardly ever present in males except in war, the conditions of which seem to produce a fairly large number of cases. The writer had the opportunity to observe several such cases, a few of which he reports in detail.

Most of the patients complained of nervous cardiac disturbances, sharp pains and a feeling of pressure upon the left side of the chest, palpitation after exertion, excitement upon eating and while lying in bed. All gave the impression of being naturally very nervous and most admitted that this was so. Most cases showed marked dermographia and increased reflexes. Although the majority of these cases had been diagnosed as cardiac disease, valvular affections were never found. Nothing pathological could be discovered except an occasional sign at the apex. Cardiac murmur was not observed in a single instance. The same applied to hypertrophy of the heart. The cardiac function of the nerve showed no irregularity; there was, however, a slight increase in rate. The method of examination for these hyperaesthetic heart zones is very simple. The patient, lying in bed with both eyes covered, has a pin point drawn, first over the right, then over the left side of the chest. Without being questioned, he usually complains of a peculiar painful feeling in the region of the heart. Next the examiner, all the while exerting only very slight pressure upon the needle, moves it over the skin, asking the patient to state each time just when he begins to feel the pain. In this way the boundaries of the hyperaesthetic skin zones are easily located. A very simple and useful instrument has been contrived as a substitute for the needle.

The symptomatology of several cases is given. In all cases of organic cardiac disease examined for skin hyperaesthesia such zones were found. Two hys-

terics also were examined in the same way and exactly corresponding hyperaesthetic zones were demonstrated on both sides of the chest.

Any incident or event that has a disturbing effect upon the nervous system may be a causal factor. Two patients reported a premature explosion nearby as the cause of the fright that started their trouble. Many of the patients gave a history of tuberculosis. Irritation of the sympathetic nervous system often produces hyperaesthesia, which can extend to the skin, and psychic shock may cause tachycardia.

Treatment consisted in hydrotherapy combined with mental suggestion. The results were poor and recurrence was frequent.

Mohr, Fritz. Etiology, Prognosis and Treatment of Depressive conditions in Combatants (Zur Entstehung, Vorhersage und Behandlung nervöser und depressiver Zustandsbilder bei Kriegsteilnehmen) Med. Klin., Berlin, 11: 607–10, May 30, 1915

Individuals in the service suffering from nervous and depressive conditions are usually predisposed in two ways—somatically or psychically. The somatic weakness shows itself in excessive fatigue, exhaustion, sleeplessness, tremors and other motor disturbances, vascular and cardiac affections, paraesthesias, marked dermographia, pain in the region of surgically cured wounds, etc. The psychic predisposition is shown by apparent change of personality, psychomotor disturbances, states of anxiety and depression, excessive irritability, fits of laughing and crying, fixed ideas, phobias, a tendency to start with fright at loud noises, etc. These psychic and organic conditions frequently coexist and influence each other so that diagnoses of neurasthenia and hysteria are often not clearly defined.

These states may originate before the soldiers go to the front, especially during mobilization, or at the front, or after they have returned from the front. The exciting causes may be physical pathological conditions, resulting either from disease or injury, physical fatigue, deficient nutrition, the hardships of trench life, over-tense brain activity, lack of sleep, exposure to wet, cold or heat, etc. But these factors, of course, do not apply to cases who are affected before they reach the front. A psychic predisposition is, in most instances, the basis of their trouble.

But for the affections of the former group a purely physical explanation does not wholly suffice. The psychological defense against displeasure exerts a strong influence upon their mental states. The writer gives a detailed description of the functioning of this defense reaction, intensified as it is by the hardships of war, and leading the individual unconsciously "to seek refuge in the disease," and so to "transfer" his original symptoms, psychic or organic, from peripheral to central reaction. Thus, for example, the pain is by no means imaginary, even when the peripheral nervous system has ceased to show any but minor affections, or none at all, but is just as real as the original pain in the region of the wound, except that it is now due to the functioning of the central nervous system instead of the peripheral. Thus, these troubles cannot be cured by "will power," as is sometimes assumed.

This same condition is often mistaken for malingering. The physician who pronounces this verdict without the most careful examination and consideration of the individual case is guilty of great wrong to his profession and to the patient, for, if his diagnosis is erroneous, the patient is led more and more deeply into the unconscious aggravation of his symptoms, loses hope, and his recovery is indefinitely postponed and rendered doubly difficult.

It is evident then that treatment must not follow the classic physical methods, but must unite itself with psychotherapy. Physical treatment, such as rest, sedatives, tonics, exercises, etc., may be helpful in cases of exhaustion and some

very slight traumatic brain injuries, but in all other types of cases, psychic treatment is more efficacious. In this connection a few fundamental principles may be enunciated. It is unwise to send patients from the front immediately to their homes for treatment. They should be treated in pavilions for convalescents attached to base hospitals, for they would only be demoralized, in most cases, by a stay at home. These convalescent homes should be in charge of a trained psychiatrist, whose daily routine should never include more than thirty patients. Also, these patients should never be sent to special sanitoria for treatment of intestinal, cardiac or rheumatic symptoms, for experience has demonstrated that, under such treatment, psychogenic symptoms become so firmly fixed in the affected organs that the patients, even after apparent improvement, are likely, from the slightest causes, to suffer a recurrence of the former symptoms. It is of the greatest importance to explain clearly to the patient the nature of his trouble. It is most unwise to call his trouble "imaginary" and to harp upon the force of "suggestion." Patience, keen psychological understanding, and a personal interest in the patient on the part of the doctor are absolutely essential to successful treatment.

Cimbal, W. Psychosis and Psychoneurosis in the Ninth Army Corps since Mobilization (Die Seelischen und Nervösen Erkrankungen) Neurol. Centralbl., Leipsic, 34: 411–15, June 1, 1915

In the Ninth Army Corps only a few cases of "mobilization neurosis" were observed. In most of these it was found that the trouble was preexistent to mobilization. The condition had been kept secret by the patients and their families in order to make enlistment possible. Some of the men had been previously discharged from the army as unfit, but had taken advantage of war conditions to resume military life.

A large number of soldiers developed psychoses in Belgium during the long, forced marches there, in the excessive summer heat.

The writer divides war neuroses and psychoses into three closely related groups:

1. Acute nervous hyper-excitability.
2. Spasmodic affections.
3. Traumatic psychoses resulting from shock or general exhaustion.

A third of group 2—spasmodic affections—gave no history of nervous predisposition. In another third, personal histories showed enuresis, headaches and other slight affections, but never spasmodic conditions. In none of these cases did examination bring to light the clinical picture of genuine epilepsy, with dullness, slow reactions, and limited field of interest, but the symptoms exhibited were hyper-excitability, limited field of vision, lack of corneal and laryngeal reflexes, and paralysis of the hysterical type.

Frequently hysteria is confused, by the military authorities, with malingering and attempts are made to suppress it by the severest discipline. This is a mistake, for such individuals are absolutely unfit for military service and should be considered psychopathic or neurotic.

Vascular symptoms were increased pulse and lowered blood pressure. Tendon reflexes showed more frequently a decrease than an increase. A symptom almost always coexistent with exhaustion was fine tremor of the fingers, tongue, and closed eyelids. Nystagmus was often present. Muscular contractures were frequent. General nervous symptoms were disturbed sleep, rapid losing of weight, hallucinations and hyperesthesia.

Alcoholic psychoses were comparatively rare.

Of the typical psychoses, strictly speaking, the most frequent were those of exhaustion and extreme irritability. These were found most often following dysentery and typhoid fever; they were less frequent after peripheral injuries.

A picture of typical amentia was never observed, but twilight states and light deliria were frequent. The "wish" played an important part in these. Mental defectives were numerous.

A "battle psychosis" peculiar to trench warfare is described as follows. The soldier, after several days of lying in the trenches, suddenly leaps out, under the delusion either that the order for attack has been given, or that he is being attacked, and dashes toward the enemy. He is, of course, usually lost unless his comrades succeed in restraining him. Not infrequently such cases have been brought before the court-martial, charged unjustly with cowardice or desertion.

The writer criticizes the use of the term "accident hysteria" as leading to complications in awarding war indemnities. He advises, as the best measures for maintaining mental health in the army, adequate periods of rest in the field and sufficient sleep. To attain the latter, hypnotics may be used if necessary. Home furloughs should be avoided in every possible instance.

Shultz, J. H. Remarks on the "Feeling of Animosity" in War (Einige Bemerkungen über Feindschaftsgefühle im Kriege) Neurol. Centralbl., Leipsic, 34: 373–78, June 1, 1915

"Feelings of animosity" present a very complex psychological picture. Upon hearing this phrase, popular psychology immediately pictures aversion, anger, resentment, hatred, fury; or, applying the phrase a little more broadly, rebellion, exasperation, indifference, distrust, contempt. But all these interpretations are superficial.

Can we properly use the expression "feelings" of animosity? There are instinctive antipathetic reactions, such as those of the dog and cat, but can these be called "feelings"? Sensory impressions are the basis of such instinctive reactions; in fact, these were probably the original sources of all human animosity.

Psychical traits may also give rise to "feelings" of animosity; thus, phlegmatic temperaments are often antagonistic to sanguine ones, and vice versa. This may be the root of race antagonism. Other forms of animosity are expressed by revenge, envy and jealousy. In paranoia, the subjective feeling of insufficiency causes hatred of the superior individual.

In times of war, new factors enter into this psychological complex. When an enemy, to protect himself, holds a child between himself and the bullets of the opposing forces, the natural psychological reaction toward this deed needs no explanation. A similar feeling is created when he sets fire to peaceful homes. The same enemy, however, can approach, unaware that he is all the while observed, and no soldier will wish to fire. The case is quite different, however, when the enemy is at a distance as an organized whole and perhaps invisible. Then no personal element enters into the situation. The soldier has but one desire—to bring the opposing force as soon as possible within range of artillery, rifle or bayonet. Yet, even under these circumstances, no "feeling of animosity," strictly speaking, should exist.

These same "feelings of animosity" are rarely felt toward an enemy who is an equal; they arise very quickly, however, when the soldiers find themselves in an exposed position, while scouting or retreating, or when they are surrounded on all sides by superior numbers. These feelings become terrible in their intensity after complete hemming in by the enemy lasting several days, when hopelessness ends in hatred and fury.

Besides these external causes, endogenous etiological factors enter into this emotional state, as, for example, temperament and training.

The writer concludes his article by emphasizing the fact that war offers much less opportunity for developing "feelings of animosity" than peace.

Bittorf, A. The Consequences of Heat Stroke (Über Folgezustände des Hitzschlags) Münch. med. Woch. 62: 862, June 22, 1915

A number of cases of heat stroke that occurred in a barracks near the front in August 1914 came under the writer's observation.

The patients complained of headache, and great lassitude and were subject to attacks of weakness and of very rapid respiration. In the majority, after a few days, sudden hysterical spasmodic fits occurred, but never distinctive epilepsy. These fits did not cease entirely in any of the cases. All improved slowly under treatment and none were finally declared unfit for military service. One of the cases showed, in the early stages, complete hysterical mutism, abasia, astasia and greatly increased rate of respiration. Most of the symptoms disappeared in a short time, with the exception of the hysterical motor disturbances which persisted long after. The patient was in hospital for a month and a half. Another patient showed initial symptoms of headache, lassitude, speech difficulties, moderate nervousness, tachypnea, and, after a few days, a nervous tachycardia. With treatment, the affections of speech improved and the rate of expiration decreased, but there was a total loss of the sensations of pain and temperature, although touch and sensibility remained normal. Gradually the mucous membrane was affected in the same way. Trophic or vasomotor disturbances could not be demonstrated. Peculiar cramp-like fits, in a conscious state, appeared. Clinically these resembled attacks of tetany involving the arms, hands and feet, and extending sometimes to the face and abdomen. Yet symptoms of tetany, hyperaesthesia, etc., could never be demonstrated. These fits, which were so violent that the patient often cried aloud for hours from the muscular pain, ceased immediately upon the application of heat. The hysterical nature of this clinical picture can hardly be doubted. The same case was followed by hysterical sequelae. Nervous temperament could be proven in only one case. The prognosis of a number of cases was unfavorable. Since therapeutical attempts up to this time have given very poor results, the study of prophylaxis of heat stroke should be given special attention.

Zange, Johannes. Hysterical Functional Disturbances of the Auditory Apparatus in War (Über hysterische Functionsstörungen des nervösen Ohrapparates im Kriege) Münch. med. Woch. 62: 957–61, July 13, 1915

Hysteria plays a surprisingly important part in war-neuroses, especially in functional disturbances of hearing and equilibrium. These two forms of disturbance frequently coexist. Diagnosis of such affections, especially as to whether they are organic or psychic in origin, is, needless to say, often difficult.

Complete deafness or hysterical impairment of hearing generally follows a combination of a tremendous sound-impression, fright or a slight trauma of the skull which is in no sense related to concussion of the brain. In 75% of cases of auditory disturbance, the clinical pictures showed a psychogenic etiological factor; the results of terror and of psychic shock were evident in addition to the mechanical effects of the shell explosion upon the labyrinth and the nervous ystem generally.

Several cases are cited to illustrate the difficulty of differential diagnosis. To be diagnosed as hysterical, auditory disturbances should coexist with other hysterical symptoms, especially anesthesia and hyper- and hypesthesia. It is easy to mistake this condition for simulation.

Vestibular disturbances also have been proved to be frequently of psychic origin. Cases illustrating this are cited.

Nystagmus, vertigo and equilibratory affections should be diagnosed as psychogenic only when fistular reaction is abnormal.

The most important factors in treatment are to guard against arousing emotion by excessive auditory impressions, to protect the patient from any disturbing influences that might tend to remind him of the shock from which his trouble originated, and to cheer him as much as possible. The static electric current was found to be of therapeutic value, and, in severe cases of sudden hysterical deafness, the application of a strong faradic current brought good results.

Bonhöffer, K. Epilepsy and Related Conditions in the War (Erfahrungen über Epilepsie und Verwandtes im Feldzunge) Monat. für Psych. u. Neurol., Berlin, 38: 61–72, July–Aug. 1915

Most of the psychiatrists in active service in the war zone state that few psychoses have been observed and that consequently war can be considered only a minor factor in the production of mental troubles. Bonhöffer agrees with this statement, saying that the two great disease groups—manic depressive and schizophrenic insanity—are no more frequent under war conditions than in times of peace, and that, after the war, the same will probably be said of progressive paralysis. The only distinctive role played so far by the war has been the development in numerous instances of psychic and nervous conditions latent in predisposed individuals. These have shown themselves in the form of paralyses, motor disturbances, functional local pains, spasmodic fits and hypochondriac complaints.

He attributes the cases of traumatic neurosis observed by him to pre-existing constitutional diathesis. The subconscious influence of desires and wishes can often be demonstrated. The "pathologic fraud," closely related to the hysteric, is sometimes found, and it is easy to understand why he appears more frequently in times of war than of peace. A constitutional depressive predisposition seems to react more strongly in officers than in privates because of the greater responsibility of the former.

Among thirty-three cases observed, twenty had already had mental or nervous trouble before the war. In more than half, over-intense emotional states and great exhaustion were the principle causative factors. The exciting cause in five cases was forced marches; in seven, scenes on the battle-field; in two, shell explosions in the immediate vicinity. The length of time between the causal event and the appearance of symptoms varied from six hours to four weeks. In only five cases were fits of a typically epileptic character observed. Three of these exhibited the characteristic twilight states. Thirteen patients had never shown symptoms of epilepsy before the war, and consequently were classified as cases of "war epilepsy." In such individuals, however, a predisposition was demonstrated. Detailed histories of some of the above cases are given. The writer leaves open the question as to how often typhoid vaccination may be responsible for the development of epilepsy. Lues was considered in only one case to be an etiological factor. There were a number of borderline cases in which the clinical picture was not distinct enough to make possible classification under either epilepsy or hysteria. A case of this kind is described. Cases of chronic epilepsy were found in the service only when there had been careful concealment of his condition by the patient, or an oversight on the part of the examining physician. None of these succeeded in reaching the front. The most frequent form of the disease was constitutional epilepsy, with infrequent attacks. In these the psychic moment was markedly pronounced. There was no case that exhibited proof of having been definitely caused by war conditions. The type of epilepsy following skull injury is not taken into consideration.

Forster, The War and Traumatic Neuroses (Der Krieg und die traumatischen Neurosen) Monat. für Psych. u. Neurol., Berlin, 38: 72–76, July–Aug. 1915

Forster's article is written in answer to Oppenheim's earlier one,* in which the latter postulates his theory of a specific traumatic neurosis. Forster's experience, so he states, did not confirm this theory. As chief of the neurological division of a base hospital, he had ample opportunity for observation. These observations proved, in his opinion, that no new disease symptoms have originated on account of the war.

The majority of his cases showed, as a predominant symptom, great depression, sometimes with, sometimes without obvious cause. Often the direct causes were the overtaxing of physical strength, the terrifying scenes caused by bombardment, the sight of dead, wounded and mutilated comrades, or difficulties with superiors or subordinates. Another group showed lack of will power and a tendency to great irritability, characteristics that had made trouble for them in civil life, as was shown by investigations into personal histories. A third group was composed of a degenerate type — vagrants, men who had suffered from enuresis and somnambulism, who had served terms in penal institutions and had been guilty of various excesses, especially when under the influence of alcohol. Another class consisted of hysterics. In addition to these were the men suffering from many kinds of troubles based upon organic conditions.

The author then takes up his two main points of contention. He wishes to prove, first, that the so-called traumatic neuroses are not based upon homogeneous material; and, secondly, that the history of all cases of this kind shows a neuropathic predisposition. The "wish" complex always plays an important part in their pathological states, especially in those of hysteria. Forms of this very rarely met with in times of peace were frequently observed by the author during his war service. Genesis in all cases was clear. The patients were, in a comparatively short time, cured by the explanation that these attacks were of no consequence, and attendants were forbidden to pay any attention to them when they were suffering from such attacks. The "wish" was very evident; even in cases who expressed a desire to return to the front, it was easy to see the conflict. They hoped the doctor would say, "It is impossible for you to return to the front; you *must* go home." A very interesting case is described.

The experiences of the writer may be summarized as follows:

1. War does not cause a traumatic neurosis unless the individual is neuropathologically predisposed.

2. The number of such cases is not increased in war time.

The author, up to the time of writing, had observed no cases of so-called "fright neurosis."

He explains the fact that he and Oppenheim have arrived at such different results by the criticism that the latter did not judge his cases with the necessary objectivity.

Nonne, Max. Neuroses among the Wounded (Soll man wieder "traumatische Neurose" bei Kriegsverletzten diagnostiziern?) Med. Klin, Berlin, 11: 849–54, Aug. 1, 1915

Nonne remarks that the hysteria acquired in the trenches is often accompanied by vasomotor phenomena. Also that the syndrome compounded of symptoms of hysteria, neurasthenia and hypochondria plus vasomotor anomalies may occur without trauma, and hence it should not be labeled traumatic neurosis, as many are inclined to call it. The sudden and complete recovery in many instances under suggestion also discredits the assumption of anatomic changes

* See p. 144, Oppenheim, Hermann, War and Traumatic Neuroses, etc.

in the central nervous system as the origin of the syndrome. The most frequent cause for its development is explosion of a grenade, and the emotional shock is the main factor.—J. A. M. A. 65: 1063, Sept. 18, 1915.

Bonhöffer, K. Differential Diagnosis of Hysteria, Psychopathic Constitution and Insanity in Soldiers. Med. Klin., Berlin, 11: 877-81, August 8, 1915

Bonhöffer says that the aspect of the psychiatric wards at the Berlin Charité Hospital is remarkably different now from what it was before the war. Then hysteria was practically restricted to the women's wards, but now the men's wards are crowded with all forms of hysteria and psychopathies with epileptiform traits, degenerates and actual insane. The necessity for careful differentiation is obvious as the proper treatment for one may be harmful in the others or at least waste time and effort, as when a hysteric paralysis is treated as for organic disease, or an actually insane person is isolated and treated by suggestion. Differentiation requires prolonged study of the case, as a rule, and this is practically impossible in the field. The emotional or mental reaction after some unusual action is often decisive, but objective tests fail to give reliable findings in the early stages.—J. A. M. A. 65: 1222, Oct. 2, 1915.

Meyer, E. Functional Nervous Troubles in Soldiers at the Front, and Some Notes on Traumatic Neuroses (Funktionnelle Nervenstörungen bei Kriegsteilnehmern nebst Bemerkungen zur traumatischen Neurose) Deutsche med. Woch. 41: 1509–11, Dec. 16, 1915

This paper is the amplification of another by the same author read a year ago, in which he reported experiences with war neuroses and psychoses based upon data collected during the first three months of the war. In the former paper he comments upon the comparatively small number of psychoses, in the strict sense of the word, met with in contrast to the great number of patients of psychopathic constitution, including neurasthenics. These groups, together with traumatic neuroses, amounted to 37.4% of the total of psychoses and neuroses. The second article covers observations made during the whole first year of the war, so the proportion of cases given is more accurate than in the preceding study, viz., 31.4%, showing a decrease of 6%. This decrease is probably due to various reasons, among them, the greater number of cases observed, resulting in a more accurate count; the fact that cases of evident degenerative tendency were not counted with the congenital psychopaths; and the fact that the true psychoses appeared in a more pronounced form, especially those of dementia praecox.

Of the 1,126 officers and men admitted to the hospital from Aug. 1, 1914, to July 31, 1915, 352 had psychoses or neuroses. The following groups were represented: 148 psychogenics, with psychopathic reactions or hysterical disturbances; 128 with congenital psychopathic diathesis; and 76 with traumatic neuroses.

Of the patients with a psychopathic diathesis, 44 were of distinctly typical character, each with a marked accentuation of his psychic idiosyncrasy, and without apparent prominence of nervous symptoms. It was sometimes difficult to differentiate between these states and those of dementia praecox, depression and manic-depression.

A few cases illustrating this type are cited. They were easily excited and irritable and suffered from a continuous state of unrest. They wept easily and had a tendency to ill humor and a continuous distressing feeling of inferiority. Especially characteristic was a lack of quick understanding and of initiative

and energy. For example, they could not grasp quickly orders and commands, nor transmit them, nor give similar ones themselves. This form of affection was found frequently, as many of these patients were officers. Among attendant physical symptoms were exhaustion, languor, palpitation, headache, sensations of pressure, vertigo, itching, neuralgia, and disturbed sleep. In his first paper, Meyer classified these cases under pathologic psychogenic reaction, but, because of their longer duration and their similarity to neurasthenia, they are better classified under the latter or as cases of acquired psychopathic constitution.

There were 84 cases of neurasthenia. Of these, 68, according to their own statements, which were, for the most part, verified by doctors, had had before entering the service marked neurasthenic symptoms. Nine of these had their troubles aggravated by war experiences. In the case of 16 patients who claimed to have been perfectly well before the war, there was no proof as to whether or not former neurasthenic symptoms had existed. In 7 of these, slight traces of previous neurasthenic states were found, yet, needless to say, it is perfectly possible that such symptoms may arise solely from the strain of war itself.

The question of the "traumatic neurosis"—its existence, causes, mechanism, pathology and prognosis—is discussed at length. Seventy-six cases of this kind came under observation, in 47 of whom the neuroses had originated before the war. The war aggravated the condition of 5 of these. Nearly one-third of these 47 gave a history of previous mental or nervous trouble in time of peace, and other factors, such as chronic alcoholism, entered in. The author has observed that in war cases of traumatic neurosis, in contradistinction to those of times of peace, an anamnesis is easily obtainable.

The final section of the article is devoted to the discussion of the large group of cases with pathologic psychogenic reactions. This term is used for patients in which psychic causes, chiefly of a short, single, intense action or influence, acute or subacute, lead to nervous and psychic disturbances which, in their nature and duration, are, for the most part, clearly defined. However, a lasting nervous tendency to similar psychogenic disturbances often remains. The symptoms are motor irritability, paralysis with or without sensory disturbances, impairment of the organs of the special senses, etc., and, in the psychotic field, dimming of consciousness with or without irritation or depression, Ganser's disease, etc.

Among 148 cases of this type under observation, 67 had not suffered from psychic disturbances until after the war, while 81 had already shown such states in times of peace. Of these latter, more than one-half showed a predisposition in the form of a general nervous condition, hereditary diathesis, mental inferiority, or previous organic nervous trouble. In the former group, less than one-fourth showed this predisposition—a striking proof of the much greater force of the causal factors of war time. Those who had had nervous trouble before the war showed a marked tendency to fits, while cases who had been affected only during the war had akinesia and anaesthetic impotence. Pathologic psychogenic states caused by war conditions may arise from injuries, over-intense emotions, over-exertion, and shell-explosions.

Prognosis seemed, at the beginning of the war, favorable, but the author has become more reserved and cautious. The reason for this is the great variation in the length of time for cures. This points to the conclusion that all cases of psychogenic states which do not clear up after a few days should be put under the care of a nerve specialist.

Scholz, Walter. Functional Paralysis of Speech in the Army (Funktionnelle Sprachlähmung im Felde) Med. Klin., Berlin, 11: 1423–24, Dec. 26, 1915

Aphonia caused by fright from shell explosions and other accidents and conditions of war is frequent. It may be present in all possible degrees of intensity,

but a relaxed condition of the vocal cords, with the larynx organically intact, is common to all cases.

Two case histories are cited in detail.

Treatment was given as follows. The patient was assured that the condition of his larynx was perfectly normal. Speech exercises were given. During laryngoscopy the electric current was applied externally. After the first sitting, the patient was able to cough loudly. Next, practice in enunciating the vowels was given, then words containing them. Fatigue occurred quickly during the first sittings, so the patient had often lost his voice again before the exercises were over. He practiced his exercises as much as possible by himself so that after ten days he was able to speak, but slowly and sometimes with stammering. At the end of three weeks he had entirely recovered.

Lewandowsky, M. Treatment of Soldiers Suffering from Nervous Diseases and Wounds of the Nervous System (Erfahrungen über Behandlung nervenverletzter und nervenkranker Soldaten) Deutsche med. Woch. 41: 1565–67, Dec. 30, 1915

This paper was a report to government officials by the author of his experiences as a nerve specialist at various military hospitals. It was not intended for publication, but, after several requests from military authorities that this be done, it was published without alterations or additions.

The first section is devoted to a study of injuries of the peripheral nerves.

Next, lesions of the spinal column are taken up. Operations in such cases are of little value. The author emphasizes the fact that the continuous bath is the only means of preventing decubitus, and that, while complete lesions of the spinal column are in the end always fatal, some cases of partial lesions may be saved by careful treatment if decubitus is prevented by means of the continuous bath.

In lesions of the brain or skull the danger lies in the unobserved formation of brain abscesses, with consequent sudden or gradually appearing symptoms.

Functional diseases include neurasthenia, hysteria, and so-called traumatic neuroses. In 95% of such cases objective symptoms indicate distinctly their functional nature, and separate them clearly from organic conditions. A few cases of severe skull injury and of concussion of the brain remain of doubtful classification. Just as is the case when such lesions sometimes result in psychoses, it may be assumed that also, in the less severe so-called psychoneurotic affections, a condition not definitely proved as organic lesion—slight hemorrhages or neuroses—may be the etiological factor in these pathological phenomena. Likewise headaches and feelings of pressure due to skull injuries received a long time previously should not be considered functional, but, together with cases of the above-mentioned type, should be classified, with reservation among affections caused *perhaps* by organic lesions. In all other types of such cases the psychic origin is above doubt. The author approves emphatically of Oppenheim's classification of the traumatic neuroses, hysteria, etc., as organic diseases, but disapproves equally strongly of the same author's division into separate clinical entities of the syndrome called hysteria by the majority of neurological authorities. To make such symptoms as reflex paralysis, akinesia amnestica, and myotonoclonia trepidans disease entities can lead only to confusion in the diagnosis of hysteria by non-specialists.

The author is convinced that the etiological factors of all so-called functional affections are wholly psychic in nature. One of these is fright caused by shell-explosions, burial by mines, etc., a type of emotional strain felt continuously at the front. Another is the craving to leave the service and return home. At this point emphasis is laid upon the fact that often a sharp line cannot be drawn between hysteria and simulation. Psychic causes often become etiological

factors, even without the soldier's participation in active service at the front. The conditions of training-camp life sometimes are sufficient to cause abnormal mental states in men without psychopathic diathesis. Although not the least stigma should be attached to such functional cases, nevertheless their periodical war indemnity should be smaller than that granted to men suffering from organic lesions. In countries such as Denmark and Switzerland, where indemnities are paid in a lump sum and not periodically, these functional diseases are practically unknown. The "wish" is certainly a strong etiological factor in these functional conditions. This is shown by the fact that, with injuries which a priori render a soldier unfit for further active service, they are very rarely found, but they frequently exist after minor lesions that indicate a speedy recovery and return to the front. Men who have suffered from these functional affections are of little use at the front; in fact, they have often a dangerous effect upon their comrades, they overcrowd hospitals, and constitute a distinct menace in other ways, so they should either be relegated to suitable duties in the rear, or discharged as unfit. In the less severe cases, psychic treatment may be used, and this should be applied, not in special wards for nervous cases, but in general wards, for the grouping together of functional patients has evil results because they influence one another. These cases should be kept in the open air as much as possible, given easy, but adequate, work to do, and so gradually reeducated for a useful life. The personality of the hospital attendants is of the utmost importance.

Cases of organic nervous trouble should be weeded out as soon as possible and discharged as unfit.

Birnbaum, Karl. War Neuroses and Psychoses according to Observations made in the Present War; first Resumé from the Beginning of the War to the Middle of March, 1915 (Kriegsneurosen und psychosen auf Grund der gegenwärtigen Kriegsbeobachtungen; erste Zusammenstellung vom Kriegsbeginn bis Mitte März, 1915) Zeitschrift für die gesammte Neurologie und Psychiatrie, Referate und Ergebnisse, 11: 321–67, 1915

This article represents a resumé of seventy-two other articles, and is an excellent summary of all observations upon war neuroses and psychoses up to the middle of March, 1915. The following is an abstract of Dr. August Hoch's review of Birnbaum's article. This review was published in the New York State Hospital Bulletin, new series, vol. 8, p. 287–91, 1915.

After a paragraph upon mental changes that have taken place since the war among the general population, estimates as to psychotic conditions found in soldiers during the war are quoted. Hoch has calculated that about two in 10,000 soldiers develop war psychoses. "In a field hospital in the Argonnes through which from 20,000 to 30,000 patients passed, only ten or twelve cases with psychoses were actually observed. In order to get an idea of the different types of psychoses, the following table has been compiled from the facts given by Birnbaum which the latter collected from articles by Bonhöffer, Meyer and Hahn, and an earlier article by Stier on conditions in peace."

Relative Frequency of Disease Groups in the Army

	During War			During Peace
	Bonhöffer	Meyer	Hahn	Stier 1905–1906
Psychopathic constitution, hysteria, traumatic neuroses, etc.	54%	37.5%	43%	17.5%
Alcoholism—chronic and acute states	10%	21.5%	21%	
Dementia praecox	7%	7.5%	13%	35%
Epilepsy	14%	11.5%	8%	12%
Manic-depressive insanity	3%	4%	2%	9.5%
General paralysis	6%	3.5%	3%	

"It is clear from this table that psychopathic constitutions, various psychogenic reactions, hysterical and anxiety states, also exhaustive conditions—all of which were included in the first group—are strikingly frequent; whereas the more serious constitutional disorders, such as manic-depressive insanity, dementia praecox and epilepsy are much rarer. In the middle, stand alcoholic psychoses. General paralysis is evidently quite rare, a fact of some interest. Especially the very rare occurrence of manic-depressive insanity seems to surprise both Birnbaum and Bonhöffer, the latter stating that in the case of a psychosis in which especially changes in the affective realm are such dominating features, one would expect that situations associated with such strong emotions, as we find them in war, would act as precipitating factors. . . . In connection with this another set of facts should be mentioned which are possibly related, namely, the observation that in the cases which are frequent . . . the content of the psychosis very often refers to war incidents; whereas, in the second group—in the more deepseated constitutional disorders . . . this is very rarely the case. Meyer especially mentions the fact that in epileptic clouded states and in schizophrenic psychoses the 'war content' plays an insignificant role. For manic-depressive insanity, data are not available. It is also interesting in this connection that Mendel observed during the excitements in narcosis that the patients almost exclusively spoke of war experiences. Singer noted a content referring to war experiences in fever deliria, and Meyer in alcoholic hallucinoses."

Wollenberg, in studying the question of disposition and causation in relation to the type of psychosis, found that those cases which broke down under the strain of mobilization, and who had the least resistance, comprised cases of manic-depressive insanity, paranoic schizophrenics, episodic excitements of psychopaths, and some clouded states attributable to exhaustion. "The cases who developed at or near the front were essentially hysterical and anxious psychoses as well as nervous and mental conditions due to exhaustion. Finally, the patients who had most resistance developed nervous symptoms during their hospital residence away from the front while treated for injuries. Their conditions were characterized essentially by hyperaesthesia.

"In regard to clinical pictures observed, the following may be mentioned. In the first place not infrequently exhaustion seems to have played an important role, although, as Birnbaum justly states, it is difficult to separate symptoms due to exhaustion from more psychogenic manifestations. In the Russo-Japanese

war, Awtokratow had described a clinical picture characterized by great weariness, with a marked tendency to weeping, disturbed sleep, hallucinations of sight and hearing which increased at night and in regard to which insight was not always lacking. The hallucinations referred entirely to war experiences. In the present war similar conditions were observed. Wollenberg, in Strassburg, described cases of soldiers, who, after long protracted hard fighting in the mountains, with little chance for rest and little food, showed extreme weariness, sleeplessness, head sensations, and were troubled constantly by insistent distressing memories of the battlefield. He also reported the cases of two officers who after great fatigue in intense heat became unconscious on the battlefield and remained so for several hours. This was followed by great weariness, with head sensations and symptoms of acoustic irritation (bell ringing). Again he saw cases with great weariness and profuse weeping, even in otherwise strong men. Singer has mentioned cases in which protracted exhausting influences led to delirious confused states, an observation which also had been made in the Russo-Japanese war. Bonhöffer described milder cases which, in his opinion, were like the states of irritable weakness following acute infectious diseases. Mann has seen conditions of extreme weariness with sensory disorders, which he attributes to neuritic changes, possibly on a rheumatic basis.

"Bonhöffer noted cases, who, after bomb explosions developed such symptoms as astasia or abasia, loss of voice or speech, shaking, a tendency to be easily startled, vasomotor and pulse changes. He points out that these are all symptoms which a fright itself may directly induce. Karplus found after the same cause great weariness and irritability, tremor, hysterical palsies, sensory disorders. Although physical traumata were often present, they were also at times absent, and the symptoms seemed to be, essentially, not organic, though of course focal symptoms were found at times by some observers, according to the type of injury. Interesting is a case, reported by Schuster, of a man who was asleep when a bomb exploded near by. Those around him, exposed to the shock, showed nervous symptoms, whereas he was entirely free from them. Karplus found after bomb explosions as rare syndromes Graves' disease, and again diabetes. Mendel states that Graves' disease has been repeatedly seen developing during the war, and Zangger had described it after other catastrophes. Oppenheim saw a Graves' disease develop in one case after fatiguing fighting with much privation. The patient recovered after six weeks' rest.

"Among the psychopathic conditions, etc., seen by Bonhöffer were hysterical attacks, palsies, functional pain, deliria with confabulation of having severe internal injuries, or of being attacked, etc., also hysterical pseudo-dementias, fugues, etc. Oppenheim described in peripheral nerve lesions (and attributed the condition to these) a marked general hyperaesthesia, manifesting itself in the fact that sounds or touching or even the fear of being touched produced intense paroxysms of pain; at times such paroxysms occurred with clouding of consciousness and angry excitement.

"Of interest is, finally, an observation reported in the Franco-Prussian war: A whole troup of French soldiers who, in a very fatigued state, got into a church, all saw a vision of the Madonna, which promised protection. In the present war several officers hallucinated at the same time a row of white houses; an officer saw a troup of cavalry approaching, also an airship, and a French flag thrown down from the latter. Well known are the sentinel hallucinations."

Consiglio, P. Studies in Military Psychiatry and Criminology (Studien über Militärpsychiatrie ünd Kriminologie) Zeitschrft. für gesam. Neurol. u. Psych., Berlin, 28: 384–94, 1915

Although armies have in common many organic and psychological characteristics, they differ widely in that they reflect the national spirit, the psychic

tendencies and the degrees of national culture of their respective countries. The military organization of a nation thus affords a broad and interesting field of study to the psychologist.

The writer emphasizes the great importance of a strict examination of recruits, both physical and mental, and shows the menace to the service of the mentally unfit by quoting statistics of discharges from the army between 1870 and 1889. These statistics show the incidence of age in the various groups of mental diseases, the effect of length of time of service, and the percentage of mental disease occurring in the various military groups. The cavalry invariably furnished the largest number. Statistics showing the influence of the seasons are also quoted in detail. Geographical distribution of disease forms as found in the Italian army is given in minute detail, together with etiological factors in the production of the various ailments.

The article closes with a statement of the proportion of criminals in each one of the disease groups.

Meyer, E. The Influence of the War, Particularly of its Outbreak, on the Insane (Der Einfluss des Krieges, insbesondere des Kriegsausbruches, auf schon bestehende Psychosen) Archiv fur Psych. und Nerv., Berlin, 55: 353–64, 1915

Meyer makes a study of the effect of the war on persons mentally diseased, in relation to their personal reactions, their feeling for their immediate family, and their appreciation of higher sentiments toward their country. Fifty-three patients were studied, about equally divided as to sex, also certain alcoholics. Among the alcoholics, the ego-complex remained conspicuous. Negative results were also obtained from the paralytics and from the senile dements. Seventeen dementia praecox patients gave somewhat varying results, but again without any very positive feelings. In general the somewhat expected conclusion is reached that the egocentric attitude of the patients prevented a serious consideration of the significance of the war. In addition, seventy women patients who had been actually exposed to Russian shell fire likewise showed no material influence on their psychoses.—J. of nerv. and ment. dis. 46: 377, Nov. 1917.

Wollenberg, R. Occupation Therapy for Soldiers with Nervous Affections. (Weitere Erfahrungen mit der Heilbeschäftigung nervenkranker Soldaten) Deutsche med. Woch. 42: 6–7, Jan. 6, 1916

Prompted by his experience in the treatment of nervous affections during the first year of the war, the writer succeeded in bringing about the establishment of a rural nerve sanitorium for soldiers. His idea was that in this way patients needing it could be afforded an opportunity for regaining their health with the help or work in the open air, and also that physicians would here have unlimited opportunity for more prolonged and careful observation and research than is possible in the ordinary hospital. The only patients were to be men who gave promise of being restored to military usefulness.

The asylum for the deaf and dumb in Neuhof, a suburb of Strassburg, was chosen and transformed into a sanitorium. It was admirably suited, not only in construction, but also because of fine equipment and spacious grounds, for the above purpose.

Various kinds of handicrafts are taught in special work rooms under the supervision of a nurse-instructor. Also, the patients work in the fields and gardens, carpenter shops, etc. The daily work is assigned according to the wishes and interest of the patient, his capability for it, and the degree of proficiency attained by him. The usual procedure is, first, handicraft, then gardening, and

finally farm work. Generally patients work from three to four hours a day, morning or afternoon as they prefer. Just after the sanitorium was established there was not enough work at the institution to occupy all the inmates, so the management offered the services of the patients to the city, and the care of the parks was undertaken. Soon farmers and contractors became interested and welcomed the patients as help so that 50% had outside work. Of course careful and constant supervision of all patients by physicians is necessary, and strict rules must be observed. The use of alcohol in any form is prohibited.

Funds to buy necessary materials, etc., were raised in various ways: well-known artists donated specimens of their work for a lottery contest; articles made by the inmates were put on exhibition and sold; the Red Cross gave some financial aid; sometimes patients were able to sell their work through their own personal efforts, and thus to pay for the materials used. When the patients "work out," a small wage is paid to the hospital for their services, half of which the patients receive and half of which is kept by the hospital to help pay expenses.

The plan has proved a great success, both from the point of view of supplying really helpful labor where needed, and especially of therapy for the soldiers themselves.

Schultze, F. E. Otto. Electric Treatment with Psychic and Physical Training for Hysteric Contracture and Paralysis (Über die Kaufmannsche Behandlung hysterischer Bewegungsstörungen) Münch. med. Woch. 63: 1349–53, Sept. 19, 1916

Schultze gives the minute details of the technic of this special combination of psychotherapy, electricity and exercise which seems to have proved nearly as successful in his fifteen cases as in Kaufmann's extensive experience with it. —J. A. M. A. 67: 1683, Nov. 25, 1916.

Stier, Ewald. Nervous Affections, Especially Epilepsy, from a Military Standpoint. Deutsche med. Woch. 42: 1153–55 and 1190–96, Sept. 21 and 28, 1916

Stier remarks that the old regulation that epilepsy debars from military service still holds good, even in these days when the barriers have been lowered to admit many recruits that would have been rejected in peace times. The assumption of epilepsy has however been modified, so that now it requires the testimony of three reliable witnesses who have seen at least one seizure each, and can describe it in detail with the date, place and other details; or the testimony of a physician who has witnessed himself the occurrence of a seizure; or the testimony of a specialist. The three lay witnesses may be members of the man's family, and the details which they relate are most useful for the final decision. The regulations provide further for the acceptance of the testimony of an army or navy medical officer who has witnessed a seizure or the immediate and direct consequences of one. These new regulations have much facilitated the task of speedy weeding out of epileptics. Symptomatic epilepsy and epileptoid psychopathies do not come under the ban of true epilepsy, but are classed under other headings. Stier's article is completed in the following number.—J. A. M. A. 67: 1632, Nov. 25, 1916.

Muck, O. Further Treatment of War Aphonia (Weitere Heilungen von Stimmverlust im Kriege) Münch. med. Woch. 41: 1466–67, Oct. 10, 1916

In an earlier paper the writer refrained from using the term "hysterical aphonia," preferring "functional aphonia" because it was not possible in a great

many of the cases so affected to demonstrate, or even to suspect, a neurotic constitution. In several cases it was observed that the psychic disturbance caused by fright entailed, monosymptomatically, aphonia or dysphonia, and that, with the return of the power of vocalization, the previously existing psychic depression caused by the loss of voice disappeared.

A number of interesting case histories are cited to show the use of the "ball method" for curing aphonia. This method consists in introducing a ball into the larynx to cause temporary suffocation and thus produce a reflex restoring functioning power to the adductors. This method is a further application of the well known fact that vocal impairment which has existed for years may be instantly cured by some strong psychic or nervous shock, usually coming as a surprise. The ball method supplies artificially this shock. The method should be applied as soon as the patient has recuperated from the shock that caused the aphonia. Usually one short sitting only is necessary. The author feels that some cases of this kind are led to prolong their trouble by the desire to get as much war indemnity as possible.

The ball method has been applied also with success to cases of functional deafness and mutism.

Mann, L. Treatment of War Neuroses (Neue Methoden und Geschichtspunkte zur Behandlung der Kriegsneurosen) Ber. klin. Woch. 53: 1333, Dec. 4, 1916

Mann analyzes the various methods of treatment of war neuroses and describes some of his own successful cases. The hysteric manifestations in these war neuroses are the consequence of some powerful emotion which has induced, as he says, a "physopsychic concussion." The principle of treatment for certain cases is to induce some violent new commotion which will crowd the former one aside. A pile of iron filings can be partially separated by shaking the paper holding them, and then they can be reassembled in a pile by shaking again. Kaufmann has been remarkably successful with his Ueberrumpelung method, combining startling electric measures with suggestion and exercise, the orders all in a crisp military tone, and keeping up the sitting until the man is cured, even if it takes two hours or more. Mann has succeeded with somewhat milder means; in some cases, with several months of rest alone. No one method can apply to all.—J. A. M. A. 68: 585, Feb. 17, 1917.

Saaler, B. Relation of Nervous and Psychic Affections to Military Service (Über nervöse und psychische Krankheiten in ihren Beziehungen zum [Kriegsdienst) Ber. klin. Woch. 53: 1389, Dec. 25, 1916

Saaler limits his paper to his own experience during fourteen months with these affections, during which he has encountered nothing which is really new. The causes may be summed up under somatic and psychic. Under the former we have overexertions, privations, heat and cold, somatic diseases, traumatisms, gas-poisoning, action of air-pressure after explosions, burial under débris, etc. Under psychic causes must be enumerated fright, psychic exhaustion from constant excitement and sensational happenings, injuries. In regard to the somatic causes these obtain to a much less extent than was originally believed. The most strenuous efforts and severe privations are borne with impunity by the young with no greater penalty than some loss of weight. No one need longer worry over any supposed degenerations of the German youth. In the more advanced ages it is, of course, otherwise, yet men healthy at the outset are seldom damaged by military life. Men already weakened by some disease have nervous systems predisposed to exhaustion. This is expressed ordinarily by neurasthenia,

and in severe cases by exhaustion psychoses, expressed chiefly in acute hallucinatory confusion. In the author's experience the majority of such subjects had originally gone through some infectious disease—typhoid, dysentery. Head injuries play a notable role, and not so much those severe, direct traumatisms of the brain as those which do not directly compromise the latter. The amount of damage done is hard to estimate. One authority would never send back to the ranks a soldier who has been wounded in the head. Many of these show the Friedmann vasomotor symptom—complex or traumatic cerebrasthenia. Not much has been published on the results of "gassing"; chlorine and carbon monoxide are the principal gases in use. The results of explosions are not unlike the symptoms of caisson disease. Neuropsychoses from psychic exhaustion, fright neuroses and traumatic neuroses comprise the chief psychical disorders. Under fright neuroses are classed psychogenic paralyses, loss of speech, stuttering, coarse tremor, vasomotor disturbances, tachycardia. In psychic exhaustion from a series of prolonged insults we see a similar picture. The patient's mind again lives through scenes which were specially pronounced affects. We may see twilight states, delirium, severe melancholia with inhibition, suicidal tendencies, etc. The motivation of psychogenic neuroses consists of a subconscious wish to escape the events which produced them—a "recourse to neurosis," at least in so far as the picture is dominated by hysteria and whenever there has been an internal conflict. In fright neuroses there is no such motivation. In regard to predisposition, it is certain that a perfectly normal subject can react to severe psychic shock (this has been shown sufficiently in "catastrophe reaction"). Certain classes of psychopaths, morally inferior men and alcoholics have often surprised us by their resistance. Latent psychoses like dementia praecox and manic-depressive insanity as well as progressive paralysis are, as a rule, soon manifest in war, and may exhibit a military coloring. Graves' disease and hyperthyroidism may be included here as neuroses. In regard to simulation of neuroses and psychoses, this cannot be practiced by healthy, normal men. Tendency to simulate is in itself evidence of psychopathy, hysteria, etc. The influence of alcohol must not be overlooked—for in one case 20 per cent of men subjected to psychiatric investigation were intoxicated when first placed in charge.—Med. rec. 91: 473–74, March 17, 1917.

Lust, F. War Neuroses among War Prisoners in Germany (Kriegsneurosen und Kriegsgefangene) Münch. med. Woch. 63: 1829, Dec. 26, 1916

Lust cites Mörchen's report that he found only five cases of war neuroses among the 40,000 war prisoners at the Darmstadt prisoners' camp. The majority reached the camp within three days of having been taken prisoner, and a number came from the Verdun region. There is every reason to assume that they had been subjected to the same kind of mechanical and emotional stress as the German soldiers, and yet the hysteric nervous disturbances so common among the soldiers were found only in one among each 8,000. Lust has also recently reviewed 20,000 war prisoners to select those to exchange, and he too found the war neuroses rare among both military and civilian prisoners of war. He calls attention to this as disproving certain prevailing theories as to the mechanical and psychic causes of war hysteria.—J. A. M. A. 68: 667, Feb. 24, 1917.

Sigg, Ernst. In a Hospital for Nervous Diseases (Im Nervenlazarett) Corr.-Blatt für Schweiz. Aerzte 47: 129–47, Feb. 3, 1917

Sigg states that in the past decades the nervous, neurasthenic, and psychopathic have increased notably in numbers. Out of this number are recruited those soldiers who find their way to neurological clinics. Simulation, even exag-

geration, is relatively uncommon. For the great majority of soldiers the hardships of war are not beyond human endurance. There are numerous individuals who are affected but do not often come to hospital treatment. These men are worn out, unfit for duty, but not actually ill; they need rest only, and not much of that. If they do not obtain rest they become depressed, hypochondriac, and as a result of insomnia in part may show mental confusion and hallucinations. Psychopaths react in divers manner toward military life. Some are even highly enthusiastic with "crowd courage." They are in fact braced up by mass suggestion, which is forfeited when they settle down to trench life. Subconscious fear asserts itself as hysteria, chiefly as a result of shell shock. A shell projectile bursts near a group of soldiers. They are thrown about by air pressure and perhaps covered with débris. They may perish outright or lie unconscious for minutes, days, even weeks. There may be total or partial amnesia, or the fright may persist as a hysterical behavior. Psychic collapse may even attend the sound soldier. As soon as some of the shocked victims have become oriented as to what has passed, they complain of headache, stiffness, vertigo, palpitation; they weep readily and are extremely sensitive to noises. They do not sleep at all or merely doze. They tremble violently, walk with difficulty, show a psychogenic Romberg. The entire musculature twitches at a slight sound, which has a comedy element for those about them. They walk with fantastic, unnatural, stilted steps, or as if walking "on eggs," or have a pseudotabetic gait, or prance along, or walk as if on artificial legs, or with spastic gait, so that it is small wonder that they convulse the bystanders with laughter. They constantly live through the scenes of the war (compulsive memory), and sometimes believe that the shells actually struck them, which causes hypochondriacal delusions. The author devotes pages to the behavior of these patients who provoke sympathy and pity as well as mirth. The women attendants coddle them for their own harm. The various hysterical paralyses and contractures, however, provoke attempts at compensation of other muscles, and the victim tries hard to salute his officers with his helpless arm. The effects of drum fire on neurotic subjects are more severe than those of shell shock, and psychotic states develop. We see sudden collapse, katatonoid apathy, complete disorientation (they may fancy themselves prisoners). Robust soldiers may behave like young children. Under drum fire there is constant fear of death, constant expectation of danger, or a state of despair. The series of sleepless nights causes a vicious circle. A number of illustrated cases is given.—Med. rec. 91: 962, June 2, 1917.

Strasser, Charlot. Traumatic and Military Neuroses (Über Unfall- und Militärneurosen). Corr.-Blatt für Schweiz. Aerzte 47: 257-74, March 3, 1917

Strasser relates that the Swiss troops have now been on guard duty at the boundary for over two and a half years. Many of the men worry over neglected home affairs, while not appreciating the necessity for this border duty. The consequence is that neuroses are comparatively frequent, ranging from neurasthenia, insomnia, hysteric attacks and chorea to gastric and cardiac nervous troubles. They are always the aggravation of some preceding disturbance. Under ordinary conditions, he says, the military service of the male youth of Switzerland is regarded as a recreation, an honor, and fine sport. The system of military training makes comparatively small demands, and then only for a short time. There is scarcely ever a question of social and economic hardship for the individual in his brief return for service every year. On the contrary, it is looked on as a pleasant vacation from the everyday routine, and has rescued many men from impending neurasthenia and neuroses. But the monotony of these years of border duty and the pressure of home worries have in many instances fanned a predisposition into a flame. Strasser adds that the greater

the physician's experience the less often he diagnoses simulation. In estimation and treatment of these neuroses, the physician must be guided by the principles of treatment for traumatic and nontraumatic neuroses of any kind, seeking a compromise between the extraordinary demands made now by the state and the needs of the individual.—J. A. M. A. 68: 1218–19, April 21, 1917.

Michaelis, Edgar. War Psychoses. Klin. für psychische und nervöse Krankheiten, v. 9, no. 4

. . . Dr. Edgar Michaelis discusses the so-called "war psychoses" which he says are a branch of reaction psychoses in general. He relates in detail the case of a peaceful peasant, who was transported to the midst of the war and acquired a "war complex." Michaelis cautions us against calling this a nosological entity, a mistake we will not make if we approach these cases from an analytical standpoint. . . .—Med. rec. 91: 429, March 10, 1917.

Nonne, Max. Polyneuritis of Mixed Nerves in Neurasthenic Soldiers. Deutsche Zeitschrift für Nervenheilkunde, bd. 54, hft. 1

Nonne speaks of cases illustrative of Edinger's exhaustion theory. Individuals were observed free from alcoholism, syphilis, intoxications or infections. Multiple neuritis was observed in the ulnar, median, radial, anterior crural and posterior tibial nerves.

The existence of the polyneuritis neurasthenica of Mann is confirmed. The patients were free from alcoholism and infections, nor had they had previously marked neurasthenic manifestations. The neuritis did not develop until sometime after the muscular exertion.—N. S. Yawger, J. nerv. and ment. dis. 45: 471, May 1917.

Rorschach, H. Attempts at Cure of Amnesia by Means of Free Association and Hypnosis (Assoziansexperiment, freies Assoziieren und Hypnose im Dienst der Hebung einer Amnesie) Corr.-Blatt für Schweiz. Aerzte 47 : 898–905, July 14, 1917

Rorschach relates this case: A soldier sent home on furlough did not return on time. Investigation led to his discovery in a beer cellar in a state of mental confusion and amnesia. Removed to the hospital, he was able to remember up to a certain hour on the first day of his furlough when apparently he had met with an accident. He was able to give a good history of himself and family, and had never before been in a twilight state although there may have been an unmotivated tendency in boyhood to wander. He had always been alcohol-intolerant and two glasses of beer were enough to rob him of self control. Once he had had an unmotivated attack of weeping. His record as a soldier was good save on one occasion when he had failed to get up in the morning. When interned he was pale, complained of headache, was alternately euphoric and anxious, and showed numerous peculiarities of behavior. He was first tested with ordinary association (Jung-Riklin) which was at least 93 per cent internal. Great uniformity was shown, and the total results pointed strongly to epileptic association. Free association tests *per se* could throw no light on the amnesia and the patient was then hypnotized. Under hypnosis certain things were remembered but there were many gaps and posthypnotic suggestion failed completely. It seemed beyond doubt, by the character of the recollections, that during the twilight state patient had been in a delirium which by its content suggested an organic brain disease.—Med. rec. 92 : 345, Aug. 25, 1917.

Imboden, K. The Neurosis Problem in the Light of War Neurology (Das Neurosenproblem im Lichte der Kriegsneurologie) Corr.-Blatt für Schweiz. Aerzte 47: 1098–1109. References

Imboden reviews the extensive literature on functional neuroses of the last three years, emphasizing that there is no essential psychologic difference between the neuroses among the soldiers and the neuroses of peace times. Human life is a struggle for existence even without the thunder of artillery and starvation blockades, and many get wounded and live on, crippled, or sink by the wayside. He remarks that the fact that so few men develop neuroses among the millions engaged in this awful warfare shows that civilization does not develop weaklings to the extent that had been feared. He regards it as significant that the professor of psychiatry at the University of Jena has recently published a manual on psychanalysis, saying that psychotherapeutic demands are now made on every physician during these years of war, and the psychanalysis movement should have general attention. Imboden declares that the one fact emerging from the war neurology data to date is the increasing appreciation of the psychic factor in the genesis of the clinical pictures of the nervous state. Nonne even advocates hypnosis in treatment, and the array of disguised persuasion methods proposed is legion; Goldstein advocates a sham injection under a few whiffs of ethyl chlorid; Weichardt the continuous bath until all the symptoms subside; Podmanizky lumbar puncture to cure abasia. The "extremely logical and extremely brutal" method introduced by Kaufmann, consisting in strong electric shocks with loud, staccato military commands to do certain exercises, has realized some surprising cures, but time has shown that relapses are liable to follow on the slightest provocation.—J. A. M. A. 69 : 1305, Oct. 13, 1917.

Spranger, C. H. Active Treatment of the Neuroses of War. Deutsche med. Woch., Oct. 18, 1917

C. H. Spranger has resorted principally to suggestion during the waking state, combined with the use of the faradic current of sufficient strength to cause some pain. After a period of preparation by a specially trained personnel and the examples offered by subjects who have been cured, the morbid symptoms such as contractures, trembling, paralyses, loss of speech, deafness, etc., may be cured in a single séance. Several treatments have been required in only 9 per cent of the cases. Complete cure has been obtained in 95 per cent of cases out of a total of 322 subjects treated by the writer.—Med. rec. 93: 82, Jan. 12, 1918.

Binswanger, L. Concussion and Shell Shock Psychoses (Über Kommotionspsychosen und Verwandtes) Corr.-Blatt für Schweiz. Aerzte 47: 1401–12, Oct. 20, 1917

Binswanger records a series of cases of which one may serve as illustration. A soldier aged 25 of neuropathic stock (brother, chorea; sister, infantile paralysis) had been cured of gastric ulcer before the war. Mentally his record was fair, with no imbecile reactions in association tests. Was of the affective type, cheerful and jolly, his occasional "jags" were not of pathological type. Very early in the war a bullet struck him beneath the eye. He was not stunned. Knew how to protect himself, was thought to be dead by his own men, but announced himself at roll call, weak and feverish. In the hospital he passed the first ten days in delirium with amnesia. Somatic and psychic states then rapidly came to equilibrium. Retrograde amnesia was present at first. The nature of this 10-day psychosis is obscure. As fever was considerable (maximum 38.88°) it could be imagained as febrile delirium. The alternatives would be commotion or exhaustion psychosis, the first from the impact of the bullet, the latter from the ordinary hardships of war acting upon a neuropathic soil. Eight months

later, after an operation upon the wound, the temperature suddenly arose with a violent delirium which necessitated the use of the straitjacket. It was learned that patient had passed from the period of anesthesia directly into a psychotic state—that he had come out of the ether like a "raving maniac." After the first two days he had lucid spells. The diagnosis was epileptoid excitation with delirium. It appeared he was three hours in coming out of the ether, which showed that his attack had really begun as a period of stupor. The subsequent history threw considerable light on the case, for without further psychosis the man developed severe cortical attacks between which he was chiefly out of sorts. —Med. rec. 92: 1090. Dec. 22, 1917.

ITALIAN LITERATURE

Periodicals Abstracted

Gazzetta degli Ospedali et delle Cliniche
Giornale di Medicina Militare
Morgagni
Policlinico
Riforma Medica
Rivista di Patologia Nervosa e Mentale
Rivista Italiana di Neuropatologia, Psychiatria ed Elettroterapia
Rivista Ospedaliera

ITALIAN LITERATURE

Roncoroni, L. War Mutism. Morgagni 58: 424–26, May 10, 1916. Presented at a meeting of the Medical society of Parma

At a meeting of the Medical Society of Parma in November, 1915, L. Roncoroni reported four cases of war mutism (*Il Morgagni*, May 10, 1916). Two of the patients had an evident predisposition to mental disease, one of them having attempted suicide some years before, while the other at the age of sixteen, after seeing an apparition of a woman clothed in white in his room at night, remained three days without being able to utter a word. The affection also occurs in non-combatants; one of the patients was an orderly, and another a chauffeur employed in collecting wounded. Although the condition is known as war mutism, in the author's cases there were other phenomena—sensory and motor, organic and psychic—besides the loss of speech. One man was the subject of automatic motor symptoms with rhythmical movements of the head—flexion, extension, and from side to side—and twisting of the trunk, which lasted four days consecutively. Two had some muscular hypertonia, especially in the lower limbs; in three there was definite diminution in sensitiveness to pain. In one there was exaggeration of reflexes superficial and deep, and immobility of the eyeballs, so that the man seemed to be always staring at one point. There was an arrest of all the higher psychomotor functions. In the first days the patients were motionless, and incapable of reacting to external stimuli, or manifesting a spontaneous activity except in regard to taking food and emptying the rectum and bladder. In most cases sleep was not disturbed. The power of writing was always recovered before that of speech. In three cases the more important symptoms disappeared after three to ten days, and in a fortnight or three weeks cure was complete, except in the case of the man who had previously attempted suicide. In all the cases there was loss of memory, which lasted some days. Roncoroni holds strongly that war mutism is not hysterical in nature.—Ontario Hospitals for the Insane. Bulletin 9: 9, July 1916.

Morselli, Arturo. War Psychiatry. Paper presented at a meeting of the Royal Medical Academy of Genoa

At a meeting of the Royal Medical Academy of Genoa, Arturo Morselli, consulting neurologist to the First Army of Italy, presented a communication on war psychiatry which he called a new chapter in mental pathology. He excluded from his purview all the common forms of psychosis which the circumstances of warfare had forced from a condition of latency into active development, and those such as alcoholism, epilepsy and dementia praecox, which had already existed when the patients were mobilized. Dealing only with mental aberrations due directly to the war, he said these mostly occurred in an acute form; they were brought on by the emotional excitement of battle, and, in his experience, had a basis of asthenia. He divided them into seven groups: (1) Acute nervous asthenia, mostly in the form of neurasthenia and psychasthenia; (2) hysteria, of which there were many varieties manifesting themselves in dumbness, stammering, tremor, paralysis, convulsions, catalepsy or somnambulism; (3) depression, showing itself sometimes as simple sadness, at others as delirium with ideas of suicide; (4) stupor, sometimes simple, sometimes accompanied by catatonic phenomena recalling those of dementia praecox; (5) hallucinations, coming on in a transient form after emotion; (6) confusional states, having the characters of amentia; (7) in rare cases, maniacal excitement. All forms of war psychosis in the strict sense are, in Morselli's experience, curable within a short period if

treated early; it is important, therefore, that the diagnosis should be made at once within the war zone. It is better that a soldier whose mind has been deranged by the conditions of military service should not be sent to a lunatic asylum unless the case proves refractory to early treatment. The author points out the difficulties presented by more or less conscious simulation. It is in dealing with such cases that the experience of the psychiatrist is most useful as, without special knowledge, mistakes are easily made. Once the doctor has made up his mind that the soldier is shamming, the best plan is to send him back to the fighting line. The results of treatment in the psychiatric stations within the war zone are very satisfactory. In some forms of psychosis the proportion of cures within the first ten days is sixty per cent.—Ontario Hospitals for the Insane. Bulletin 9: 6-7, July 1916

Pastine, C. Commotion of the Nerve Centres by a Violent Explosion close at hand; Influence of Physical Pain on the Psychical State (Commozione dei centri nervosi da explosione violenta a breve distanza) Riv. di patol. nerv. e ment. 21: 433–38, Aug. 1916

As a result of a bomb exploding close to him an officer presented the following clinical picture: On the organic side there were symptoms of a lesion—probably a meningeal hemorrhage—localised to a cerebral region, endocranial hypertension, slight unilateral changes in the pyramidal tract, some indication of cerebellar asynergy, vertebral pain, deafness, and diminution of vision. On the psychical side there were marked slowing of all the intellectual faculties, depression, and amnesia. Removal of cerebro-spinal fluid produced a slight improvement; the second puncture, which was very painful, was a "dry tap," but produced a sudden and almost complete cure. Pastine excludes simulation and hysteria, and attributes the cure to the acute and violent physical pain of the lumbar puncture.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 458, Sept. 1916.

Vignolo-Nutati, Carlo. Emotional Psoriasis (Sulla cosidetta psoriasis emotiva e traumatica) Policlinico, Rome, 23: 1422–24, Dec. 3, 1916

The author says psoriasis is a relatively frequent skin affection among the soldiers. Many cases are due to nervous shock, or to the lesions following a wound appearing near the cicatrix. He holds that in such cases the emotional disturbance is the chief cause. Of 86 soldiers, aged from 22 to 35 affected with psoriasis who came under his observation in six months, 52 came from the war-zone, 18 stated they had not previously suffered from the disease, and most had been for some time on the firing-line in the trenches. In two it was possible to determine the almost immediate influence of the emotional disturbance on the onset of the skin affection. In one, a man of 25, the first manifestations appeared three days after he had taken part in the cutting of wire entanglements; in another the psoriasis appeared fifteen days after a scare due to the death of a comrade. In two other cases the onset was also accompanied by wounds. The author says it would be permissible to speak of nervous traumatism or psychic traumatism inducing the explosion on the skin. Such forms occur only in those predisposed to the affection.—Brit. med. j., Jan. 20, 1917, p. 90 a–b.

Pansera, Giuseppe, and Chiadini. Case of Loss of Speech Caused by Nervous Shock (Un caso di mutismo da shock nervoso) Policlinico, Rome, 23: 1471–72, Dec. 10, 1916

The patient was a soldier who in August, 1916, became mute after the explosion of a grenade close to him. He was kept for forty days in a military hospital where various therapeutic measures were tried without success. He was

discharged while still dumb with ninety days convalescence leave. He was arrested as a deserter perhaps because, when still suffering from the effect of the shock, he had left his regiment, and was condemned to imprisonment. He was sent to another hospital and on admission he was completely speechless, but his hearing was normal. He was placed under anaesthesia and recovered speech; at first it was monosyllabic, but after a course of vocal exercises it became normal. In answering questions he stammered a little—a defect he had not had before his injury. That he was not a malingerer was shown by a certificate from the principal officer of the hospital where he had first been under observation that the condition was caused by an injury received in the service. Another proof of the genuineness of the case was the manifest emotion and joy of the man when the action of the ether ceased and he found that he could utter a few words. At the same meeting Chiadini, Director of the Section of Nervous and Mental Diseases in another field hospital said the interest of Pansera's case lay in the success of the treatment, which was all the more remarkable since the case had proved refractory to the suggestive and emotion methods already tried. But he could not believe that through the elective action of chloroform and ether on the lipoid substances of the brain, that organ suddenly passed from a state of inhibition to a normal extrinsication of thought with correct expression in words. There remained the hypothesis of a suggestive action associated with all the means which therapeutic invention could devise and adapt to individual cases. He had collected the histories of sixty-eight soldiers affected with motor inhibition of speech, in all of whom he had to exclude cortical and subcortical motor and sensory forms, forms of aphasia and insular aphasia. The syndromic variations presented by his patients were not very marked. In all cases he believed that the centers of motor and sensory speech and their relation one with the other and with the periphery were intact; but one of the two centers was separated from the ideative center, and therefore from the whole of the remaining cortex; there was therefore an interruption of the association fibres going from the whole cortex to each of the speech centers.

All this must be taken in the functional, not the anatomical sense. The majority of the soldiers, as the result of recent psychic injury (mostly shock from the near explosion of projectiles), present motor inhibition of spontaneous speech, while retaining the faculty of repeating words pronounced to them syllable by syllable. At the same time they preserve their understanding of the spoken word and the power of writing to dictation and reading aloud. Spontaneous writing is abolished. The word corresponding to thought does not come, or if found, is not uttered. These symptoms form a first category, called by the authors "transcortical motor aphasia." This picture is not always so sharply defined; sometimes while the power of reading is abolished that of writing is retained. In a second category, "transcortical sensory aphasia," the author places cases in which words can be repeated but without understanding of their meaning; thought cannot find the word, but the power of writing to dictation and reading aloud are preserved. In those patients . . . the power of spontaneous writing or writing to dictation is for the most part preserved, while that of reading is abolished. A few cases may be placed in a third category "amnesic aphasia." The patient can speak easily, and distinctly observes the forms of things; he has difficulty, however, in finding indications of objects and names of persons and concrete substances, or cannot find them at all. That is to say, he is incapable of internally co-ordinating the sound of words with the words themselves. The understanding of spoken and written words is not altered. In all his patients Chiadini found evident marks of hysteria, but this may be merely concomitant. In certain patients some degree of cerebral commotion must be admitted to explain the condition, which is not curable except after long and patient reconstruction treatment. In the discussion Sironi related the case of a little girl, who became dumb as the result of a fright, to

whom speech was at once restored by suggestion applied after suitable religious stage preparation by a high ecclesiastical dignitary. Santoro maintained that cases of hysterical mutism are cured by any kind of treatment, and he referred to a case of aphasia in a soldier which disappeared immediately as the result of a strong impression produced by the threat of a serious operation.—Brit. med. j., Feb. 17, 1917, p. 230 a–b.

Buscaino, V. M., and Coppola, A. Mental Disturbances in War Times (Disturbi mentali in temp di guerra) Riv. di patol. nerv. e. ment. 21: 1–103, 135–82, 1916. Bibliography

The paper is based on the study of cases admitted to Professor Tanzi's clinique at Florence between July 1914 and October 1915, and contains a review of the literature and a lengthy bibliography. Forty-seven original cases are recorded and classified in three groups: (1) Soldiers who were admitted during the long period of gradual mobilization and had not been to the front. These consisted chiefly of cases of "neuro-psychopathic constitution," dementia praecox, and alcoholism. (2) Soldiers who had been to the front and who had actually taken part in battle, or had only had a vivid impression of it. (3) Civilians, refugees, and hostages. In the last two groups depressive and confusional states were most frequently found, the latter occasionally presenting a hysterical colouring in soldiers returning from battle.

The writers' conclusions are as follows: The mental disturbances which occur in war time, both in the army and in the civil population, may be divided into two groups. In the first, the mental syndrome is the direct and exclusive consequence of an external and physical factor. In such cases, which are uncommon, mental disturbances, generally in the form of loss of consciousness, are caused in perfectly sane persons by the explosion of a large projectile or a mine. In the second group, which is by far the most frequent, the syndrome is the result of the simultaneous action of two factors, or two complexes of factors, one exogenous, physical, or psychical, and the other endogenous, constituted by a specific predisposition and not revealed by psychical manifestations.

The writers' cases clearly show the great importance of congenital or acquired predisposition. War has only a psycho-pathogenic action, which affects a restricted number of individuals when associated with other morbid factors, congenital or acquired.—J. D. Rolleston, Rev. of neurology and psychiatry 14: 221–22, May 1916.

D'Abundo, Giuseppe. Changes in the Central Nervous System Following Special Traumatic Disturbances (Alterazioni nel sistema nervoso centrale consecutive a particolari commozioni traumatiche) Riv. ital. di neuropatol., psichiatr. ed elettroter. 9: 145-71, 1916

For the purpose of studying the phenomena of shock, D'Abundo submitted guinea-pigs to centrifugalisation for period varying from 30 to 120 seconds. When removed from the centrifugaliser the animals were in a fainting condition. Sometimes they showed transient and intense rotary movements round their vertebral axis; there were almost always more or less marked exophthalmos, sometimes of one eye more than of the other; lateral deviation of the neck, usually to the left; sometimes a lateral tic of the head; almost invariably vertical nystagmus, rarely horizontal nystagmus; loss of reaction to various stimuli; marked increase of the respiratory movements, and of the heart beats; often, but not always, lowering of the rectal temperature by 2° C., especially in very young subjects, and very frequently hemorrhages from the conjunctival, nasal, and buccal mucosae and subcutaneous hemorrhages from the pinnae.

The state of prostration was proportioned to the time that the animals had been kept in the centrifugaliser. They were placed in it daily, and some resisted ninety-seven days and were then killed. Emaciation was common in adult animals, and the growth of young animals was remarkably retarded.

Necropsy.—On macroscopical examination there was considerable congestion, with multiple hemorrhages in the cerebro-spinal meninges, as well as in the internal organs. Histological examination of the central nervous system confirmed the macroscopical findings.

The anatomical lesions of the central nervous system in centrifugalised guinea-pigs were thus identical with those found in men who had been wounded by the explosion of large projectiles. J. D. Rolleston, Rev. of neurology and psychiatry 14:219–20, May 1916.

Goria, Carlo. Psychic Mutism in Soldiers at the Front (El mutismo psichico nei militari, alla sua genesi emozionale e commozionale) Rif. med., Naples, 32: 724–27 and 756–61, 1916. Bibliography

Goria opens his article with a historical review of all cases of speech disturbance from shock recorded in medical literature since 1856. He draws most of his material from French sources.

He then describes in detail three cases that came under his observation in the present war. The faradic current and reeducation were the principle therapeutic measures employed. A minute analysis of the cases is given, with comparison of records of similar cases.

In conclusion, he summarizes all theories as to the genesis of mutism following shell shock.

The article is followed by a comprehensive bibliography.

Lattes, L. Homosexuals in the Army. G. di. med. mil., Rome, Jan. 31, 1917

Lattes mentions the efforts made in all countries to keep abnormal individuals out of the army. Homosexuality *per se* is not mentioned among psychical abnormalities. The question of sexual necessity is ignored and the men are allowed to do as they please within certain limits. It would be ridiculous and in vain to insist on abstinence and unmoral to organize prostitution. A soldier's sexuality must not in any way interfere with his military activities nor bring about any scandal to injure the morale of the troops. In as far as a homosexual is markedly effeminate he is out of place in the army, for he is unfitted for the efforts and privations of war. Save for his abnormality, his mental processes are normal. In many cases his morals, volition, and affects show no peculiarities, and he responds throughout to discipline. In other cases his general morality is low, and he is devoid of shame and sense of human dignity. These men are morally imbecile. They do not respond to discipline and are constantly in trouble for petty offences. These men must be regarded as true degenerates, and with their psychopathy is usually associated a poor physical organization. This type is rare, and although it may present some feminine traits, differs notably from the true invert with his general effeminacy but absence of degeneacy. Some of these men have robust physiques, while others are delicate and slender in appearance. As already stated, these subjects give satisfaction as soldiers, if not in the fighting line at least in garrison duty and other sedentary activities. The fear is present, however, that these subjects can demoralize others and lower the morale. Such psychic contagion is seen to the full in hysteria. Mere suggestion and invitation play a role in the spread of moral contagion, as is seen in prison life. There results in such cases indifference to all immorality, and in theory at least to discipline. But in an army engaged in warfare the very rigor and absoluteness of discipline are constant antidotes

to mass suggestion and individual delinquency. In fact, the antisocial subject is for the time under the dominance of the symbiosis of discipline. In a subject like homosexuality there are many distinctions to be kept in mind, and these are best indicated by cases. The first cited is that of a young cocaine fiend with a very bad neuropsychic heredity. Anatomically, he was a perfect male, while in his physical and mental expression he was feminine throughout. He was subject to crises of hysteria and melancholy, with suicidal impulses. His sexual aberrations were of several kinds. He was, however, unusually intelligent, with great patriotic fervor. Technically, he was under treatment for cocainism. The second case mentioned was that of a man in the sanitary corps, who presented absolutely nothing abnormal but was on friendly terms with the first subject. He came under observation for mental confusion, which proved to be due to cocaine. The condition seemed to be one of acquired homosexuality beginning with excessive self abuse. He tried to cure himself by relations with women, but found he was not fully potent. The third history given is that of a pure invert who became a female impersonator. Anatomically he was a perfect male. He was unequal to military hardships, although during two months of active service his record was good. A fourth subject agreed chiefly with the second one. In commenting on the four cases, the author stated that with the exception of the first they were fit for military service of some sort. Their sexual aberrations were known only from their own admissions in response to direct questions They were responsible for no scandal or moral contagion. But, since they are not wanted in the army, they must be grouped under some designation which automatically keeps them out of the service. Weakmindedness or psychic insufficiency and epilepsy are excluded. Mental alienation is likewise out of the question in the ordinary sense of the term. Homosexuality seems most allied to compulsion neuroses, phobias, etc., which unfit a man for military service. If mental alienation be made to include these defects as evidence of unsound mind in the widest acceptance, homosexuality can be grouped therein as a mental infirmity which is bad for the collectivity of the army.—Med. rec. 91: 740, April 28, 1917.

D'Abundo, Giuseppe. Neuropathological Division for Soldiers of the Clinic for Nervous and Mental Diseases of the University of Catania. Riv. ital. di neuropat., psichiatr. ed elettroter. 10: 22-24, Jan. 1917

From the beginning of the war a large number of soldiers affected with nervous diseases were sent to the clinic of the University of Catania. To the two wards which the clinic had at the beginning, three more had to be added. In many cases of nervous disturbances a surgical operation is indicated. As most of the patients refuse to submit to an operation, the author says, it should be made obligatory. The service in the neuropathological division is very hard. Functional nervous disturbances are very frequent and varying and an exact study is necessary to establish in each case the real clinical form by eliminating the exaggerations which are nourished and maintained by autosuggestive psychological factors.—Mod. hosp. 9: 68, July 1917.

Alberti, Angelo. Psychiatric Services of the War (I servizi psichiatrici di guerra) Riv. osp., Rome, 7: 233–39, May 16, 1917

Three months after Italy entered the war it was necessary to establish special psychiatric services in the medical department of the army. As it was not advisable to treat the mentally deranged men in the same hospital with the other soldiers, special pavilions were constructed on the same plan and arrangement as the observation pavilions in modern hospitals for the insane. The buildings are only of one floor and are divided into rooms to contain not more than ten patients. These hospitals were established behind the front. Gradu-

ally, as necessity required, other pavilions were added, so that the buildings finally represented quite extensive observation hospitals for demented soldiers. The men whose condition requires treatment in institutions in the interior of the country are transported on special cars to Milan, Rome, and other cities.—Mod. hosp. 9: 450, Dec. 1917.

Ferrannini, Luigi. Traumatic Reflex and Hysteric Paralysis. Rif. med., Naples, 33: 632-36 and 649-52, June 16 and 23, 1917. Bibliography

In two cases of which an illustrated description is given, a bullet wound of the forearm, without direct injury of bones or of the nerves of the muscles involved, was followed by lax paralysis with hypo-esthesia and amyotrophy, no electric but considerable mechanical hyperexcitability and slight circulatory disturbances. The hand drooped at an acute angle and the visual field was contracted. The disturbances are purely functional and correspond to Babinski's reflex paralysis, but they correspond also to hysteria paralysis, and Ferrannini is convinced that they belong in the hysteria class and that there is no need to set up this new category of "reflex paralysis."—J. A. M. A. 69: 597, Aug. 18, 1917.

Pighini, Giacomo. Emotional Psychoneurosis in Soldiers at the Front. Policlinico, Rome, 24: 243–68, June 24, 1917. Bibliography

Pighini presents evidence that a pure acute emotional psychoneurosis is accompanied in its initial phase with a state of autonomous miopragia and contemporaneous dysfunction of the sympathetic system. The latter in many cases is connected with abnormal functioning of the thyroid. This is manifested in some cases by symptoms suggesting exophthalmic goiter, in others by other symptoms of thyrosympathetic pathology. Symptoms of hysteria may be superposed, but they rarely develop as early as the independently functioning narrowing of the caliber of the blood vessels—the autonomous miopragia.—J. A. M. A. 69: 498, Aug. 11, 1917.

Molinari, G. The Psychoneuroses of War (Nosografia delle psiconeurosi di guerra) Rif. med., Naples, 33: 898–900, Sept. 15, 1917

War psychoneuroses may be described as of the same type as ordinary anxiety psychoses, but having a distinctive etiology. Psychoneurotic affections need not follow directly upon the causative emotional disturbance, but an incubation period of varying length, may intervene. All authorities are agreed in their findings—that in the firing-line psychoneuroses are rare. Here the individual is completely absorbed in the effort for self-preservation; his mind has no opportunity to react to emotions. But once he is out of danger, the psychopath, no longer dominated by instinct, is a prey to any abnormal mental and neurotic states that conditions or events, present or previous, may arouse in him. These manifest themselves in contractures, paralyses, tremors, convulsive fits, etc. The clinical picture of such cases is described in detail. The writer's observations agree with those of other authorities. Motor disturbances he found to be the most frequent, especially paraplegia of the flaccid type. Symptomatology is given in full, but no cases are described.

Brunetti, F. The Ear during War. Gaz. osp. e clin., Milan, 38 : 1049, Sept. 30, 1917

Brunetti reviews the various causes liable to injure the organ of hearing during the present warfare. He discusses in particular the injuries from explosions with-

out direct contact, and the detection of simulated or exaggerated deafness in one or both ears. This is particularly difficult when there is or has been hysteric deafness. With this, other stigmata of hysteria must be sought; the reactions to electric tests may be modified. An electric shock alone may cure hysteric deafness. General anaesthesia has proved useful in some cases and hypnotism in others, or both together. The areas of hypesthesia in the skin are instructive, as also changes in the visual field and inversion of colors.—J. A. M. A. 69: 1743, Nov. 17, 1917.

Boschi, Gaetano. Provision for the Care of War Neuroses and Psychoses in France. G. de med. mil., Rome, 11: 942–47, Nov. 30, 1917

Professor Boschi, director of a neurological military hospital in Italy, gives a brief account of a trip to France undertaken in the interest of his special work. Paris, because of both its resources and its proximity to the fighting line, was naturally the place of destination. The services at both the Salpêtrière and the Pitié are largely devoted to military activities and there are military divisions in the insane asylums or rather connected with them. Near the Villejuif is a neurological center rich in appliances for physiotherapy which was organized by Souques and is directed by Thomas. At the Grand Palais in Paris is a great service for reeducation. In the Hôtel des Invalides a similar service is under way with the especial aim of reeducating maimed soldiers for agriculture, and there is also a service for teaching certain trades.

The author, however, was chiefly interested in the psychoneuroses, and learned that small neurological services are scattered throughout France and that specialism is the rule. Thus Professor Roussy has a service in the provinces limited to traumatic hysteria, the treatment consisting chiefly of psychotherapy, suggestion being conveyed under many forms. In three months' time over 200 subjects have been discharged cured. This institution (at Salino) will doubtless serve as a model for others. Another well-known service is that of Vincent at Tours. Naturally the great cities have their services for psychoneuroses. There is one at Val de Grâce, while Laignel-Lavastine conducts another at the Maison Blanche. At Lyons, Sollier conducts a neurological center in which psychotherapy is carried out incidentally, in connection with reeducation. The latter term is of course applicable to disordered mental functions. Physiotherapy, education, and psychotherapy represent three methods for attaining a common result. A striking feature at Lyons is the special service for surgery of the nervous system under Villandre. Much work is done in cranioplasity, especially for the closure of fistulae, with the best results; doubtless many cases of late sepsis are prevented.

The author attended the conference for professional reeducation in May last, which was international in origin and membership. Neuropsychic victims were placed under "blind, deaf, etc.," which did not impress the author as very flattering. However, he found under one section provision for those incapacitated by severe nervous injuries. He was the only Italian present. So-called reflex disorders played a great rôle in this material, although at first sight the chief motivation would seem to be psychogenic. Both factors are well represented and both have to be considered in treatment which includes reeducation and physiotherapy with their added psychotherapeutic possibilities. Apparently indirect suggestion is chiefly practised in all services. Nowhere do we find any special reference to hypnotism or psychoanalysis. Moral reeducation is perhaps the nearest approach to pure psychotherapy, and this does not seem to be carried out alone. The author makes no special allusion to victims of pure psychic shock or commotion and such affections as he mentions have a material organic sub-stratum.—Med. rec. 93: 22, Jan. 5, 1918.

LITERATURE OF THE NETHERLANDS

PERIODICALS ABSTRACTED

Nederlandsch Tidschrift voor Geneeskunde

LITERATURE OF THE NETHERLANDS

Zeehandelaar, I. Letter from Berlin; Study of Functional Neuroses and their Treatment in Berlin. Nederlandsche Tijdschrift voor Geneeskunde, Aug. 19, 1916. Extracts translated in J. of Amer. med. assoc. 67: 890–91, Sept. 16, 1916

Zeehandelaar, an officer of the Public Health Service of the Netherlands, recently went to Berlin to make a study of functional neuroses and their treatment, especially with psychotherapy. After a brief description of a visit to the psychopathic ward of one of the penitentiaries, the writer says: "O. Vogt and his neurobiologic institute are still housed in the old building where he has over a million specimens of brain tissue. He distinguishes 200 different fields in the cortex. Vogt told me that psychotherapy is not applicable to most of the soldiers who have been on active service, as their fear of being sent back to the front counteracts the effect of psychotherapy.

"In this special field of the nonorganic nervous affections and psychoneuroses, which are so extraordinarily multiple in this war, Lewandowsky informed me that he regards them as exclusively psychic. Oppenheim's theory of 'molecular concussion' finds in him its greatest opponent. He does not apply treatment to this great mass of functional nervous affections. All that hysteria can produce in the way of deafness, dumbness, paralysis, tremor, contracture, etc., I saw in long series in his service. The men lie around without getting any special treatment. The stay in the hospital is made as little agreeable for them as possible. No or very few visits from the family and acquaintances are allowed. The motto is: 'Just wait and have patience and everything will go away of itself.' Sometimes this system succeeds, and sometimes not. When it fails and the man is declared unfit for further service, he is sent to his home as speedily as possible. He is re-examined a year later and may then be found fit for army duty. Lewandowsky has a high opinion of psychotherapy provided it is associated with occupation therapy and strict discipline in a suitable environment. But he does not think it can be applied in the ordinary hospital. Among the interesting cases was one of traumatic rigidity of the pupil after a blow in the face. Lewandowsky has seen other cases of this kind. An organic affection of the brain or spinal cord was out of the question in these cases. Leppmann also denounced the idea of attempting to apply psychotherapy in an ordinary military hospital, even in a special ward. By the time the men reach Berlin the hysteric phenomena are firmly established.

"To my question how epileptics get along in the war, Leppmann replied that epilepsy had not made itself noticeable during the war and, so far as he could judge, the seizures did not occur any more frequently. Sexual perversity did not seem to have increased. The psychoneuroses are not caused by the war, but their development is hastened in the predisposed and the manifestations of an inherited taint are more pronounced. Almost invariably it is possible to detect the predisposition in all such cases. Both Leppmann's and Lewandowsky's clinics are in the sixty-year old military hospital. A new building had been planned but the war interfered with its construction. The reason why it looks so extremely dingy is that there is no oil to paint it with.

"The clinic where Oppenheim displays his great talents and experience as a neurologist is installed in the magnificent structure, the home of the Museum of Arts and Crafts. The whole building is temporarily at his disposal and the clinics of his staff are also installed there, Kalischer, Flatau and others. Oppenheim's aid is frequently called on by the military authorities, and yet he finds

time to study each patient and give a brief but clear insight into the case. Particularly interesting to me was the close co-operation of the neurologist and the surgeon. A whole group of cases were presented to the surgeon (Borchardt) and the two studied them together, even when it was not a question of an operation. The discussions were always right to the point. No one had time to waste on explanations. These cases were of wounds of peripheral nerves, plexuses, spine and skull. Neurolysis and other operations on the trunk nerves often improved function materially. One man shot through the cauda equina, completely paralyzed in the legs and bladder, was so improved by removal of splinters of bone that he now can run. The intimate co-operation of neurologist, surgeon, roentgenologist and serologist was truly remarkable. Not one but several roentgenographs are found in the reports of cases. The Wassermann reaction and lumbar puncture findings are recorded in a special register for each case, with an arrangement for ready reference. A medically trained secretary accompanies Oppenheim to every patient and records not only most fully all the objective findings but also the patient's complaints. There were numbers of neuroses in his service. Treatment was with electricity, psychotherapy and hypnosis. I noticed that the nervous patients were given a bottle of beer. Hysteric phenomena were frequently grafted on organic affections. One man with a history of old syphilis presented symptoms of tabes. With closed eyes and feet together he fell, but not as with the true Romberg. He would have fallen like a block of wood if we had not caught him. Oppenheim said at once that this was hysteria, and held a bottle of valerian under the man's nose and asked him what it was. He started to open his eyes to look, but Oppenheim pressed on the eyelids and told him to smell without looking. His attention thus diverted, the man stood quietly for several seconds smelling at the bottle with his eyes closed and feet together.

"Lewandowsky avoids testing the sensibility of the skin with psychogenic neuroses, saying that the physician always suggests the findings here. No attempt at isolation was made at Oppenheim's clinic for the functional nervous affections. The treatment here does not seem rational or just. They are treated either with rigorous strictness or great mildness. It is difficult to know where the unconscious or intentional aggravation of the condition in these soldiers begins. The dread of being sent back to the front is also an important factor in the outcome. Treatment of hysteric deafness is peculiarly long and difficult to accomplish results, as no really good method of treatment seems to be known there. My method of treating it was received with great interest.

"The Schönow institution, Laehr's realization of the ideal of a free sanatorium for neurologic cases, lies in fields and woods with ample equipment. Henneberg is in charge of the neurologic department, and the psychoneuroses are here also in large numbers. He does not expect much from psychotherapy for soldiers who have been at the front. The men have no wish to recover, and be sent back. He spoke with some bitterness of all these psychoneuroses, asking 'Did you ever see a hysteric with both arms paralyzed, or ever with the right arm paralyzed?' He has had two cases of psychogenic paralysis of the left arm. 'Have you ever seen one that let himself get soiled with feces?' He does not attempt to give them special treatment, and I became convinced from what I saw in Berlin that these victims of an inherited taint plus the emotions of the war do better when they are kept with the mildly wounded and are not isolated or segregated. At the earliest possible moment send them to their homes if at all suitable. Men with attacks of arrhythmia and tachycardia are given the needed repose in the Schönow sanatorium. It is equipped with everything for hydrotherapy and for training the men in various trades and in agriculture. I was present at the inoculation of a number of men against typhoid and cholera, which is repeated every six months. The heart neuroses are differentiated from organic trouble by E. Weber's method. The volume of the arm is registered

with a plethysmograph before and while the foot is swung vigorously to and fro for fifteen seconds. Weber says that the curve then shows at a glance whether the heart is sound or not. . . .

"I also visited the 'High Frequency Promenade Hall.' It is fitted up with high frequency apparatus so that the hall forms a high frequency alternating field like that on a small scale in the solenoid. The electricity is so strong that touching with the finger elicits a powerful spark. The institution is fathered by an engineer and backed by considerable capital. It is designed for treatment of deranged metabolism of all kinds accompanied by high blood pressure and nervous troubles. I myself know too little about the high frequency current to ever advise a patient of mine to go into an atmosphere so heavily laden with electric currents. It is proposed to erect such institutions in different cities, after the model of the one in Berlin, the first in the world."

Kuiper, T. Question of Traumatic Neuroses as Illuminated by Experiences in the War. Nederlandsch Tijdschrift voor Geneeskunde 1:1106, April 7, 1917

Kuiper describes the conflicting views and mode of treatment in respect to traumatic neuroses, especially in the soldiers of the different warring forces. Three conceptions prevail, that of the "organic" nature of the disturbances (Oppenheim); the "functional" nature (Charcot) and the "intellectual" nature (von Strümpell). Oppenheim describes the manifestations of *Erschutterung* or concussion of the nervous system as liable to include seven different types; 1, pain in the region affected and efforts to keep the part still to prevent its hurting worse; 2, irritability, and other manifestations of changes in the psychic sphere; 3, headache and dizziness; 4, reflex epilepsy; 5, local muscular spasms; 6, manifestations suggesting neurasthenia, and 7, manifestations suggesting hysteria. Kuiper reviews and compares all the arguments for and against each of these conceptions, and the results of treatment based on each. He has been convinced by the experiences related that Oppenheim is right in assuming the continuity of the nervous system as a whole, so that the entire system, brain and all, suffers when part of it is violently jarred. The next step from accepting this assumption of molecular alterations, transmitted from periphery to brain, is to accept von Monakow's diaschisis theory, and then to assume that the diaschisis may make its influence felt on the glands with an internal secretion through the mediation of the nerves innervating them, as also on the muscles, through tonic, vasomotor, trophic and other influences from the sympathetic and autonomous nervous systems.—J. A. M. A. 68: 1880, June 16, 1917.

RUSSIAN LITERATURE

Periodicals Abstracted

Journal Nevropat i Psikhiat. Korsakova, Moskva
Morski Vrach
Obozrenie Psikhiat. i Nevrol.
Psikhiatricheskaya Gazeta
Russkiy Vrach
Sbirsk Vrach
Sovremennaia Psikhiatria
Wojenno Medicinski Journal

RUSSIAN LITERATURE

Astwatsaturow, M. I. Mental Diseases in Regard to the Conditions of Military Service; Statistical Data of Mental Disease in Various Armies. Wojenno-medicinski j., Sept. 1912

An able discussion of the statistics of the subject by the noted Warsaw psychiatrist. He admits that garrison and field service have the elements to favor the development of mental disease, especially in those hereditarily predisposed, but he also points out that on the other hand the regulated life in the army will prove to others a boon as regards their general health. Professor Astwatsaturow rejects all relative statistical data with reference to the civil population, because in the army all cases, even those of a mild or borderland character, are at once recorded, while in civil life none but the frankly pronounced cases become a matter of record. On the other hand, it must be considered that in the army we have to deal with a class of young men especially selected for their health and development, while the civil communities contain all sorts of defectives. In studying the statistical data of practically all European armies, Aswatsaturow compares the favorable result of compulsory service as against voluntary service by citing France. Here the figures speak in strong terms and tell us that when the army has ceased to become a refuge for those unable to cope with the struggle for existence in civil life, the condition of the troops from a neuro-pathologic standpoint improves wonderfully. To this day the colonial troops in Africa show twice as many ineffectives as the French army at home. As regards the influence of war, the author cites the Spanish-American war for the American army. The difficulties of a campaign are directly responsible for increased admission of mental diseases. The same could be observed in the German army before, during and after the war with France, though the increased admission rate was not quite as pronounced as with the American forces. While limiting the present article to the statistical side of the problem, it is apparent from a casual remark that the author favors short terms of enlistment.—Mil. surg. 33: 468–69, Nov. 1913.

Butenko, A. A. War and Mental Diseases in Women. Abozr. psikhiat. neurol., Petrograd, 19: 521–42, 1914–15

The author discusses the indirect effects of the war upon personality as a cause of mental disorder among the civilian population. It is only natural that the horrors of the present war should be reflected upon those left behind, especially upon the women separated from husbands or sons, upon whom they may be dependent for support. The anticipated increase of insanity among those remaining at home has actually materialized, especially since the early part of 1915. Since then, according to the author, the admission rate of women to one of the two Moscow hospitals for the care of the insane showed an increase of 25% during some months of the year over that for the same months of previous years. As early as August 1914 women, the etiology of whose condition showed a distinctive war coloring, had been admitted to this hospital.

The author has charge of one of the departments for women in the Aleksieeff Hospital for the Insane, Moscow, and the admissions to this department amount to one-half of the total admissions to the hospital. In this department, between July 1914 and October 15, 1915, thirty-six patients were received of whom twenty-two were citizens of Moscow. The mental condition of thirteen of these women showed the influence of distressing war experiences as a causal factor in the disturbance. Nine of the twenty-two had suffered previous mental dis-

turbances. One case of the thirty-six was a nurse; thirteen were refugees, largely from the Polish provinces occupied by the Germans. Of the twenty-two in whose mental states a direct connection could be found with war conditions, eight suffered from manic-depressive disorders, five from senile and presenile conditions, two from dementia praecox, two from progressive paralysis, one from a polyneuritic neurosis, one from hysteria, and one from a severe affective disturbance. In five of the manic-depressive cases, the attack was their first; in two of the remaining three there was a close connection between the outbreak of the attack and psychic trauma associated with war conditions. Four of the eight showed a depressive state, and four a manic state. In the latter the condition developed after states of intense anxiety and fear, more or less directly connected with war-time experiences. Upon the whole, the attacks were not different from ordinary manic attacks observed under the conditions of peace, except that they showed a war-coloring. All the manics wished to go to the front, either to fight in the ranks or as nurses. It is interesting to note that one case, before admission to hospital, had clipped her hair, donned a uniform and applied for admission to the army; another, as has already been stated, had actually served as nurse. The depressed cases did not refer at all to the war, but showed marked self-accusatory ideas. The mental condition of the refugees revealed distinct psychic traumatism resulting from the terrible war experiences suffered. Their mental disorders were of various types, but most of them showed a common depressive element.

Pussep, L. M. Clinical Report of the N. I. Pirogoff Local Military Hospital of Petrograd for Six Months of its Operation, Feb. 6–Aug. 6, 1915. Obozr. psikhiat. neurol., Petrograd, 19: 475 and 497, 1914–15. Illus.

During the six months of the writer's service at the Military Hospital of Petrograd, 397 nervous and mental cases, of which 125 were officers and 272 enlisted men, passed through this institution. The cases were sent to the hospital from the various military units, the Red Cross and the organizations for the care of war victims maintained by the unions of zemstvos and cities. Owing to poor management and delay in transportation of the wounded, some died within two or three hours after arrival at the hospital, and a larger number within three or four days. The author severely criticizes the diagnoses made at the front, and appears not fully to realize the great difficulties attendant upon the administration of such matters near the field of battle.

Of the forty-three cases of spinal injury operated upon, only one died as a result of operation. The other cases died after a period of from two to two and a half months from intercurrent diseases. Of twenty-eight operated upon for brain injuries, five died from suppurative meningitis. In the twenty-three remaining cases the outcome was very good. There were no deaths among those operated upon for injuries of the peripheral nervous system.

The number of operations performed was ninety-nine; they may be classified as follows:

Upon the peripheral nervous system	28
Upon the spine	43
Upon the brain	28

The diagnoses in the 397 cases were as follows:

Officers:

Injury of the spine and cord	13
Injury of the skull and brain	6
Injury of the peripheral nervous system	16
Traumatic neuroses	66
Neurasthenia	16

General paresis	1
Epilepsy	1
Tabes dorsalis	3
Spinal meningitis	1
Basedow's disease	1
Struma	1
Sciatica	2
Faecal fistula	1
Enlisted men:	
Spinal injuries	48
Skull and brain	56
Peripheral nervous system	52
Traumatic neuroses	47
Hystero-neurasthenia	6
Hysterical attacks	2
Traumatic aphonia and aphasia	5
Epilepsy	3
Deafness and mutism	1

Amenitski, D. A. The Insane at the Front. Sovrem. psikhiat., Moscow, 9:325–33, 1915

The author, during three months' experience in a general hospital not far from the front, had the opportunity to observe twenty-seven cases of mental disorder, of which one was an officer. Most of these cases came from the lazarets of the army divisions nearest the front. Two came direct from the army, and one from Petrograd. The last was a soldier who had just arrived at the front.

Emphasis is laid upon the necessity for an early diagnosis, so that cases may be assigned as soon as possible to the proper places for treatment. In a general field hospital, such as that in which the author was stationed, mental patients are very disturbing. In this particular case the difficulties were especially great because no provision had been made for the treatment of such cases, so a special place had to be arranged for their care. Also, the personnel at the general hospital was not trained for care of mental cases.

Diagnoses of these cases were unsatisfactory, because of lack of time for study and observation. However, the following diagnoses were made: manic-depressive, seven; depressed, four; excited, three; four acute psychoses with twilight states; two, cerebral arteriosclerosis; two traumatic, and one psychasthenic (officer). The remainder were left undiagnosed.

Arnstein, L. S. Neuro-pathological Study of Cases of "Air Contusion." Psikhiat. gaz., Petrograd, 2: 85–88, 1915

The author discusses the so-called traumatic neuroses produced by "wind contusion" caused by the explosion or passing of large shells.

Excluding the cases in which the concussion is accompanied by internal hemorrhage, fracture of the skull, epidural or subdural haematomata, the symptom complex is usually that of a traumatic neurosis. A similar clinical picture has been observed in connection with great catastrophes, such as the Messina earthquake. In many cases there is loss of consciousness, sometimes of prolonged duration, and often followed by more or less complete amnesia. These victims have ears, but they hear not; eyes, but they see not; legs, but they are unable to walk. In some cases bleeding from the nose, ears or throat is present. Owing to the frequent condition of amnesia, it is difficult to get an authoritative statement of initial symptoms by the time the patient has the opportunity for treatment. The entire clinical picture resembles a condition of "commotio-cerebri," especially in cases who were blown up from the ground. The psychic shock

accompanying the concussion causes in many instances, loss of function of various organs, and even of certain brain centres.

It is not always easy to distinguish the results of shock from those of actual physical injury to the central nervous system. In traumatic neuroses caused by war, the author believes hysterical symptoms predominate—that the condition is really one of traumatic hysteria. As regards treatment, he considers the Dubois method of rational re-education much more efficacious than hypnotism, suggestion, or psychoanalysis. He himself never found it necessary, in treating his cases, to resort to hypnotism.

Babinoff, Y. K. Injuries to the Nervous System Caused by the War. Morsk. vrach, Petrograd, 1915, p. 503–14

Between October 14, 1914, and August 15, 1915, through the temporary naval hospital at Moscow were passed over 1,400 wounded men of the land forces, of whom 130, or 9.5% suffered from injuries of the nervous system. The majority of these cases had motor or sensory paralyses, the results of injuries to the peripheral nerve trunks or plexus. The most numerous were injuries of the sciatic nerve; next in order of frequency came injuries of the radial, median, ulnar, femoral, obturator, facial and trifacial nerves.

In the Franco-Prussian, Greco-Turkish, Japanese-Chinese and Russo-Japanese wars, the majority of injuries were of the lower extremities; in the present war, the many injuries of the brachial plexus and nerves of the forearm are probably due to trench warfare, which exposes the upper part of the body. Frequently only partial paralysis is found, due to the fact that the nerve is not severed through its entire thickness. Such forms of paralysis are usually accompanied by much pain. Injuries to the sciatic nerve are especially painful, and are at times accompanied by complete loss of the power of motion and sensation. Wounds from bullets or shell fragments cause practically the same type of injury, except that at times they produce only slight nerve trauma without motor paralysis and loss of sensation. They are, however, extremely painful.

In injuries to the plexus, or to a single trunk, symptoms of neuritis are sometimes found, such as paralyses or diminution of all forms of sensation. Injury of the entire brachial plexus is also characterized by complete loss of muscular sensation and bone conductivity, atrophy, paresthesia, and loss or diminution of skin and tendon reflexes. Pain was localized in the region of the injury and of the vasomotor and vascular changes. Electric reaction was lowered in the majority of cases.

Of seventy cases of peripheral nerve lesion, fifty-two suffered from paralyses as shown in the following list:

Sciatic	20
Tibial	8
Brachial plexus	10
Radial	6
Median	4
Ulnar	4

Of the twenty who suffered paralysis as the result of injury to the sciatic nerve, six were completely cured as to motor and sensory functions, four showed decided improvement, and five recovered the muscular control governed by the tibial nerve. In five there was no change after two months. No case of paralysis of the facial nerves showed any improvement in spite of prolonged and systematic treatment. This treatment consisted of massage, local and general baths, simple or hot compresses, daily static or alternating galvanization or galvano-faradization. The faradic current was alternated very slowly. The author emphasizes prolonged systematic treatment as necessary for restoring some of these paralytics to a life of usefulness.

Firearm wounds of the head were not studied, but in cases with fractured skull, cerebral symptoms, such as headache, dizziness, vomiting, etc., were occasionally found. The author believes that most brain injuries result in death on the battlefield. Frequently firearm injuries of the vertebrae do not injure the cord. In ten cases, extramedullary hemorrhage occurred in connection with vertebral injuries. When pathological pressure results from such injuries, the conditions produced vary from slight disturbances of sensation and motion to complete paralysis of the extremities. All cases suffered pain, especially during the first few months after receiving the injury, but prognosis was favorable in all, and the pains finally ceased. Spinal symptoms disappeared within two or three months, and even complete paralysis was cured in from four to six months.

Firearm wounds of the spinal cord were studied in four cases. Two of these came to hospital two months after receiving the injury. They exhibited paralysis of the lower extremities with spasticity, pathological reflexes and increased tendon reflexes. These symptoms were probably due to pressure of bone fragments somewhere between the fourth and eleventh thoracic vertebrae, in spite of the fact that no sign of bone injury was detected by use of the x-ray. The region of the wound was very painful to palpation. During the first two weeks, according to statements of the patient, there was complete paralysis of the legs. The case with injury near the eleventh dorsal vertebra walked after four months, and the other with injury near the fourth dorsal vertebra after about six months, but the extremities were still spastic and clonus of the right ankle was present. The third case, in whom the bullet passed through the space between the sixth and seventh cervicals, showed a complete clinical picture of transverse destruction of the spinal cord. He was at the time this article was written in a dying condition from septic fever. In the fourth case, the bullet, after shattering the twelfth thoracic vertebra, remained in the spinal column somewhere between the third and fourth lumbar vertebrae. Laminectomy was performed, the bullet removed, and after two weeks the patient was able to stand unsupported.

After trauma on the battlefield, aside from organic injuries to the peripheral or central nervous systems, slight nervous disorders of a functional nature may arise, giving a clinical picture of neurasthenia, hysteria, psychasthenia, or a combination of all. The condition develops in the wake of a severe shock of a mental or moral nature. During war the nervous system is subjected to an intense and continuous strain, due to unusual living conditions and terrifying experiences, which leads, especially in the case of individuals with an acquired or inherited nervous weakness, to the development of a neurosis. Persons with normal nervous systems suffer these psychic traumata without serious consequences, but, in the predisposed, a neurosis may develop after slight injuries, or from no specific extraneous circumstances. These reactions are very severe, judging from the symptoms of patients suffering from "air contusion," *i. e.*, from the shock of the air current produced by the passage, or explosion, of large projectiles.

Physical symptoms are tremor of closed eyelids or out-stretched fingers; disappearance or diminution of pharyngeal and conjunctival reflexes; concentric narrowing of the field of vision for various colors, especially for green; dermographia; tension of all muscles, especially those of the extremities and trunk; clonic or tonic twitching of the facial muscles and those of the neck, arms and legs; increased skin and tendon reflexes; hyperesthesia; occasionally pain from palpation at the point of contusion; Mannkopf's and Bechtereff's symptoms—tachycardia without apparent cause, and dilation of the pupils when pressure is exerted upon the point of contusion. The two last objective symptoms are considered as distinctive and infallible in diagnosis of traumatic neuroses. Not infrequently these two symptoms are lacking, as well as the other usual physical indications, or sometimes the latter may be present in only a slight form. The patients may complain only of general weakness, dizziness, head-

ache, insomnia, terrifying nightmares, difficulty in breathing, pains in various parts of the body, and feelings of fear and anxiety. Diagnosis is difficult, needless to say, in cases presenting no objective symptoms and malingering is often suspected. The author emphasizes the necessity of realizing the importance of the purely subjective symptoms, since neglect of their significance may permit the development of a complete psychosis.

In regard to treatment, the author advocates as a basis prolonged observation and isolation in special wards.

The problem of cause has not yet been wholly solved. Most of those suffering from traumatic neuroses were among the militia and reserve corps. Next in number came the younger soldiers in action, and less than 10% of these were from the regular army.

Two interesting case histories are cited. In all, there were twenty-five cases of severe traumatic neuroses including hysterical contracture of the masseters and muscles of the trunk, neck and extremities, with pseudo-paralysis of the legs, aphonia, mutism, deafness, and tremor of the muscles of the face and hands. In addition to these, there were twelve cases of deafness from projectiles of high calibre. After a week the hearing of eight was normal, but in four the deafness remained. Otologists could find nothing of a pathological nature in an examination of the ears.

In the author's opinion, psychotic and neurotic cases are less frequent in all armies than was anticipated.

Psychic treatment without hypnosis is recommended. A confident statement to the patient that the condition will entirely disappear is often sufficient. In addition massage, electrical treatment, long furlough, and quiet are advised. The author approves generally of Dubois's rational method of treatment.

Prognosis in all cases was more or less favorable.

Gerver, A. V. Traumatic War Psychoneuroses. Russkiy. vrach 14: 793-800, 817-21, 841-44, nos. 34-36, 1915

Gerver divides the traumatic lesions of the nervous and psychic spheres (in soldiers) into the traumatic psychoneuroses and traumatic neuroses. Both may be traced to contusions, especially those caused by air concussion or by wounds. The clinical picture of the traumatic psychoneuroses resembles that of common traumatic neuroses, differing from the latter by peculiar hallucinations, illusions, obstinate focal symptoms and a peculiar condition of the upper lids, an inability to raise the upper lid after it has remained closed for a few seconds. The traumatic psychoneuroses from air contusion are especially severe, as they show signs of diffuse lesions of the central nervous system. In those caused by wounds, the local symptoms predominate and the course is milder. The air concussion causes probably diffuse pathologic anatomic changes in the central nervous system, such as molecular changes, miliary hemorrhages, thrombosis and necrosis. The treatment must be individualized, rest being the most important item.—J. A. M. A. 66: 392, Jan. 29, 1916.

Gilyarovski, V. A. The War, and the Care of the Insane in Times of Peace. Sovrem. psikhiat., Moscow, 9: 287–97, 1915

The author emphasizes the extreme necessity of adequate provision for the care of the insane and defectives in Russia, especially in view of the increased number of mental cases that are sure to result from the present war. According to the official census made by the cities of Moscow, Petrograd and Ufim, the proportion of insane in the general population is from 1.8 to 2.4 per thousand. In the estimated population of Russia—170,000,000—there must be, therefore, approximately 340,000 insane. The author, however, believes that the proportion of insane among the population at large is more nearly 3 per thousand,

which results in a total of about 510,000. Care of the insane in Russia is in a very primitive state, and even in those "governments" which have state legislatures, only 16.9% of the insane are cared for in institutions. In Siberia only 3%, in the Caucasus, 1.6%, and in Central Asia only .6% have care that may be called at all adequate. These figures reveal a very deplorable situation, especially when compared with like statistics of some of the countries of Western Europe. In Switzerland, for instance, 58% of the insane have proper care, and in England and Scotland, 73.8% and 80% respectively. According to a census made in 1911, there were, in the entire Russian Empire not including Finland, only 250 psychiatric institutions. In the whole country only about 14% of the insane were cared for in institutions as against the estimated 30%—40% requiring such care, and an additional 15% who were able to live without institutional supervision. The author estimates that there are approximately 60,000 insane who ought to be in hospitals, yet who are at present receiving no care whatever.

In the cases of the defective, the situation is still more serious. No statistics are available in Russia as to the number of feebleminded in the general population. In Switzerland, it has been estimated that 1.7% of all children are mentally defective. Computing on this basis, there must be in Russia from 300,000 to 350,000 mentally abnormal children. No provision at all has been made for the care of such children except in hospitals for the insane, notwithstanding the fact that about 35,000 must need institutional supervision. In a number of hospitals for the insane, about which the author collected reliable data, among 7,000 insane patients were confined 116 children under fifteen years of age constituting 1.5% of the total admissions. The author has estimated that only about 1.5% to 2% of all children requiring institutional care are actually provided for, usually in these hospitals for the insane, and that about 200,000 feebleminded children receive absolutely no care or supervision. In view of the above figures, the problem that the Russian Government is facing as to its insane and defectives, especially with the additional burdens of the present war, is gigantic.

Gleboff, D. A. Malingering in Recruits. Sibirsk vrach, Tomak, 2: 49–62, 1915

The author outlines in this study, as the result of his experiences in examining 2,862 recruits, the most common forms of malingering among those called to the colors. Of the 2,862 recruits examined, 1,761, or 63.7%, were accepted; 46 were sent for further observation to various hospitals.

The author classifies as follows the methods of evading service employed by recruits:

1. False declaration of ailments without discoverable anatomical or functional disorders:
   a. Diseases of internal organs.
   b. Defective eyesight.
   c. Defective hearing.
   d. Disturbed functioning of joints.
2. Simulation of temporary mal-functioning of organs showing no diseased conditions.
3. Mutilation of the limbs or parts of the limbs.

In the first group belong those individuals who complain of non-existent malfunctioning of organs. The author believes that while, in many cases, the falsity of such statements could be proved without much difficulty, a certain number of persons were considered malingerers who actually suffered from some form of disorder, undetected because of the necessarily rapid and superficial nature of the examination. Nevertheless, of the accepted 1,761 cases, only 6, or .024%, were rejected by regular army physicians later on account of heart and lung diseases. This type of malingering was resorted to by the native Siberians to the extent of about 2%, but by those exiled to Siberia and by the large gipsy

population of that part of Russia, as well as by the dwellers in the larger cities, to the extent of about 50%. Sixty, or 3.4%, admitted later that they simulated defective vision when they discovered that they were to be sent for further observation to a distant hospital at their own expense; 50% of all simulated poor hearing.

Under the second group belong cases complaining of various forms of heart and lung trouble and of disturbances of hearing and sight. Occasionally somewhat severe forms of tachycardia and arrythmia were found, but, upon further observation, it was discovered that these men had taken various drugs, in some instances very large doses of digitalis and strophantus, to produce a temporary condition of the above nature. The author noticed while examining these cases that they frequently took great care not to breath directly into the face of the examiner, which led to his discovery that they were thus attempting to conceal the evidences in their breath of having taken the drugs.

The third form of malingering—mutilation—was resorted to only in rare instances. A frequent form was puncturing the eardrum. Less frequent forms were amputation of fingers and the production of open wounds, kept in an infected condition.

The author mentions also various forms of simulation of joint affections, and describes several methods of taking such malingerers unawares, when the supposedly affected joint is performing its functions quite properly. For instance, several cases complained of immovable shoulder joints, or of very painful shoulders, upon which the examiner would remark offhand to his colleague, "We shall probably have to reject this man, but we ought first to examine his heart and lungs thoroughly," at the same time giving a casual command to the recruit to raise his hands above his head. The latter usually obeyed instantly, showing, of course, that there was nothing wrong with the shoulder joint.

The author makes no reference to simulation of mental disorder.

Kashtshenko, P. P. Statistics of the Movements of Insane Soldiers as Given in Data Obtained by an Investigation. Psikhiat. gaz., Petrograd, 2: 199–203, 1915

In order to obtain information concerning the status of the care of insane soldiers, a questionnaire was sent by the author to the various psychiatric institutions of Russia, civil as well as governmental. Unfortunately some of these institutions did not receive the questionnaire, and others did not reply to it. Among the latter were some in Moscow and Petrograd through which undoubtedly passed many hundreds, if not thousands, of insane soldiers. Incomplete replies were received from fifty-six institutions, complete answers from forty-eight. From these figures the author has estimated that the replies cover about 79% of all psychiatric institutions in European Russia, exclusive of Finland, the Caucasus and the territory occupied by the enemy.

From the beginning of the war until April 1st, 1915, 4,925 insane soldiers and civilians who had done military duty passed through these institutions. Additional cases admitted to the Kief Military Hospital brought the number up to 5,833. In order to find the exact number of insane in the army, without differentiation between forces in the field and the reserve forces, the following classes must be excluded:

1. All recruits under observation as to their mental condition in hospitals for the insane.
2. All refugees, military prisoners and subjects of enemy countries.
3. All nervous patients without psychopathic symptoms, malingerers and those who were eventually found to be of sound mind.
4. All those who came to notice more than once on account of transfer to various hospitals.

The author estimates that all these classes are covered by the figure 2,549, exclusive of those noted more than once. These latter he estimates at probably 540, making the number of cases to be excluded from the total 3,089. In brief, from the beginning of the war up to April 1st, 1915, 2,744 insane soldiers passed through forty-eight hospitals for the insane, civil and military, in European Russia, exclusive of Finland, the Caucasus and the territory occupied by the enemy. Adding to this the approximate number that passed through those hospitals which did not reply to the questionnaire, the author estimates that the whole number was about 5,500.

In the forty-four psychiatric institutions that replied to the question as to the number of available beds, 2,080 beds were assigned to insane soldiers; this gave an average of about fifty per hospital, with fifteen the lowest figure and 150 the highest. The average number of insane passing through a single bed was given by the Saratof Hospital as 8.5% of the whole number of insane patients during this period of nine months; other hospitals gave the number as .6% and .5% per bed.

Of these insane soldiers, 90.6% were from the ranks, *i. e.*, privates and non-commissioned officers; 5.1% were officers, civilian officials and chaplains; 1.8% were military prisoners from the ranks, doctors, "feldshers," men and women nurses, privates and members of the medical corps; 1.2% were refugees, and occasionally a military prisoner with officer's rank was found.

At this point the author gives 5,729 as the total number of patients received. Just where he gets this figure is hard to say, as the original number obtained from the questionnaires and inclusive of the special classes given above, was 5,833, and his final total including the estimated number in those hospitals which did not reply to the questionnaire was 5,500. However, he states that, of these 5,729 patients, 4,069, or 70.1%, were discharged; therefore the situation on April 1st, 1915, was as follows: there had been under treatment 1,660 insane cases (excluding 1,470, the number in the Kief Hospital), which, subtracted from the number of beds available—2,080—left 620 beds.

As to sources from which these insane were received, it is estimated that 34.6% came from the general hospitals for sick and wounded soldiers; and 27.2% direct from the army, upon order of their commanding officers. The majority of the latter, however, were sent for observation. Local distributing stations furnished 12.8%, and military psychiatric units, 10.8%; 6.2% came from other psychiatric centres, and 5.3% from the front and from concentration camps in the immediate rear. Fourteen cases came from the general population.

As a result of his investigations, the author comes to the conclusion that the psychiatric services of the Red Cross and the army medical corps do not detect the insane. It will be remembered that, at the beginning of the war, the entire care of the insane was delegated to the Red Cross; yet, according to the author, the majority of cases came from the general hospitals for sick and wounded soldiers, and from the general distributing stations. The writer believes that a closer cooperation between Red Cross and military psychiatric services on the one hand, and the administrators of civil hospitals for the insane on the other, would facilitate the proper and timely diagnosis of mental disease in the army. He believes that, under existing conditions, the insane are detected, neither at the front nor at the rear, and only occasionally when evacuated to base hospitals.

The problem of discharge of patients from hospital to insure the best individual results would also be partially solved by the cooperative arrangement mentioned above. According to actual records, 42.6% were discharged by the military authorities for evacuation to their homes, 23.5% to psychiatric institutions, 19.9% to general hospitals, 9.3% to the care of relatives, and 2.8% died.

The following table of forms of mental disorder is given:

Mental defect and psychoses	50.4%
Psychoneuroses	27.7%
Epilepsy without psychotic manifestations	10.8%
Not insane	6.7%
Organic disease of the central and peripheral nervous system without acute conditions	1.8%

Of the total number only seven were diagnosed as malingerers, *i. e.*, only .17% of the 4,069 cases discharged.

The author divides admissions of insane cases into the three following periods:

Between July and Sept. 1914	596
Between Oct. and Dec. 1914	1,485
Between Jan. and March 1915	2,093

These quarterly periods show a gradual increase in the number of the insane. Unfortunately the author does not give the proportion of the insane to the total number of men in the army.

The reviewer cannot escape the conviction that this very important and significant collection of material referring to the status of mental disease in the Russian army is, unfortunately, presented in such a way that it gives an impression of unreliability. The figures are frequently contradictory, and, even if the given data had been presented accurately, the fact that a number of the most important hospitals for the insane in Russia, acting in direct connection with the Red Cross, are not included by the author in his statistical results, greatly lessens the value of the report. The article is severely criticized by M. B. Krol (*Statistics of the Movements of Insane Soldiers, à propos of P. B. Kashtshenko's article, Statistics of the Movements of Insane Soldiers*, etc. Psikhiat. gaz. 2: 287–91, 1915). Krol criticizes especially Kashtshenko's statement that the insane are not detected by the psychiatric services established under military supervision. The former is probably right in his belief that most of the cases handled by the Red Cross were sent to the institutions not included in the report, and that, for this reason, the author was led to the erroneous conclusion that most insane cases were detected in general military hospitals. Hence, Kashtshenko's study, which is by far the most intensive statistical survey yet made of the insane in the Russian army, must unfortunately be taken as giving only a very incomplete and, at times, erroneous statement of the case.

Khoroshko, V. K. Psychiatric Impressions and Observations near the Front. Psikhiat. gaz., Petrograd, 2: 377–83, 1915

The author served for ten months in the psychiatric service of the Red Cross under the direction of Timofieyeff. His work was commenced October 21st, 1914, at Brest-Litovsk, where a psychiatric unit was instituted. This was located on the first floor of a military hospital in a fortress, could accommodate thirty-six patients, and had a personnel of four nurses, twelve attendants and two doctors.

The second service was opened in November with accommodations for thirty-four mild cases. It was used also to accommodate the overflow from the first service, as well as all cases who had enlisted from the Polish provinces, because it was inadvisable to send these to central Russia. The personnel of this second psychiatric service consisted of one head nurse, three assistants, eight attendants and one doctor.

In May 1915 another unit was established at Lublin with accommodations for thirty-seven—twenty-eight rooms for privates and nine for officers. It was so arranged that the capacity could be increased, if need arose, to fifty beds.

The first unit served four months and three days, the second about six weeks, the third about nine months, and a fourth about ten months.

During the ten months there passed through all these units about 500 cases of whom twenty were officers. In spite of having no accurate figures as to the number of soldiers fighting upon this front, the author estimated that the proportion of psychiatric cases was less than 2%.

In 318 cases, of whom the writer had records, the following diagnoses were made:

Mental disorders	*Number*	*Per cent*
Dementia praecox	65	20.4
General paresis	32	10.0
Manic-depressive psychoses	30	9.4
Epilepsy, principally epileptic psychoses	30	9.4
Undiagnosed	31	9.7
Nervous disorders	*Number*	*Per cent*
Hysterical and traumatic neuroses, neurasthenia, organic nervous disorders	28	8.8
Imbecility	27	8.4
Traumatic psychoses	25	7.8
Amentia (infectious and post-infectious psychoses, inanition)	24	7.5
Alcoholism	10	3.1
Psychosis with organic brain disease	6	1.8
Hysterical psychoses	2	0.6
Psychasthenia	2	0.6
Chronic paranoia	2	0.6
Toxic psychosis (alcoholic)	2	0.6
Presenile dementia	1	0.3
Acute paranoia	1	0.3

The majority of cases were from the infantry. Of the 65 cases of dementia praecox, 42, or 61.7%, were under 30 years of age. Of these, 44 had belonged to the infantry, 7 to the artillery, 2 to the Cossack cavalry, 5 were sappers and 3 hospital helpers. The author probably adds here 3 cases from the unclassified group. Of these 68 cases, 13, or 19.1%, had been in battle. The majority belonged to the catatonic type.

Of 30 cases of general paresis, about whom the author had data, 1 was between 28 and 30 years of age, 9 between 30 and 35, 14 between 35 and 40, 5 between 40 and 45, and 1 between 45 and 47. Hence, 60% were between 35 and 45 years of age. Of these, 40% had belonged to the infantry, and 23.3% to special troops; no information about the others is given. One of the cases was an officer, 3 were barbers, 1 a sapper, 1 a head bookkeeper, 1 a nurse, 1 a bandmaster, 1 an engineer, and 1 a doctor; 7 took part in battle, 21 did not. The proportion of the married was 86.6%. Most of the patients were Greek Catholics; there were no Jews; but in the dementia praecox group, 14.7% were of the Jewish faith.

Of the 29 cases of manic-depressive psychoses about whom the author obtained information, 2 were between 23 and 25 years of age, 8 between 25 and 30, 8 between 30 and 35, 5 between 35 and 40, and 6 between 40 and 42. Practically all these had had previous attacks; 17 had belonged to the infantry, 5 were nurses, 3 attendants and 1 a doctor; thus the hospital corps was represented by 31% of the cases. One patient was a Jew. Most of these manic-depressive cases had a tendency to depressive attacks, with anxiety states, hypochondria, and psychasthenic symptoms. As many as 62% had not been in battle.

For the transportation of these patients to the interior of Russia and to and from the various units, special cars of the third class type were provided. These were prepared for use by removing some of the partitions in such a way as to leave a central space for the accommodation of from six to eight patients and

three separate compartments, one for the doctor, one for the personnel, and one for the acute cases. One car could thus accommodate from ten to twelve insane persons. Each car was furnished also with a small buffet, and a closet and lavatory. One supervisor to each car sufficed for trains consisting of two or three cars, but more were necessary if the patients were not accompanied by doctors. The route of the trains was from the psychiatric units to the evacuation stations at the rear, to and from the separate services in the region, and from the reception station at the front to the larger ones at the rear. Food for the patients was provided, either at the stations en route, or was cooked on the train.

As to staff personnel, about 20% were very satisfactory, one half, were more or less adaptable, and the others were either very poor or entirely unfit for the work.

The author advocates the establishment of psychiatric reception camps upon the routes of the railways for evacuation, especially at junctions. He has been convinced, from his experiences, that in times of intense activity upon the battlefield, and when shifting of forces is being carried on, the number of insane received by the units decreases, and that there is a general increase during the quieter periods. In some cases, before the insane were passed upon by the military commission, their acute symptoms had subsided and they were returned to the front.

Lyustritski, V. V. Psychical Symptoms Difficult to Simulate. Psikhiat. gaz., Petrograd, 2: 121–24, 1915

The author in this article summarizes the reasons why it is difficult to simulate certain symptoms, and states that, in this respect, the nervous symptoms present much greater difficulty than the psychic. Especially difficult for malingerers are Bechtereff's and Mannkopf's symptoms (tachycardia and dilatation of the pupils upon pressure exerted upon the contused region) in the traumatic neuroses. Easily simulated are hallucinations, delusions and affective disturbances; prolonged sleeplessness is difficult to simulate. Usually malingerers sleep soundly all night; there is a great difference to be observed between their behavior in the daytime and at night. Logorrhea, whether of the manic or of the dissociated form, as seen in the hebephrenic, or even of the type shown in the recitation of delusional ideas, is difficult to simulate. Malingerers tend to repeat the same phrases again and again, and to be systematic in their manner of expression. Verbigeration, on the other hand, is easily simulated. The author does not believe that prolonged incitement to activity, such as exists in acute manic disorders, can be successfully simulated, and he has never seen a malingerer masturbate openly, or practice coprophagia. Prolonged typical catatonic states are also difficult to simulate.

Prozoroff, L. A., Vyruboff, H. A., and Sergieeff, C. C. Organized Care of Insane Soldiers (3 articles) Psikhiat. gaz., Petrograd, 2: 167–73, 1915

In the three papers abstracted below, a general survey is given of official and local organizations in Russia for care of the insane in the army. The whole problem of treatment, transportation, housing etc., of insane soldiers was delegated to the Red Cross. Facilities for care and treatment of the insane in Russia were, even before the war, very meagre and faulty; there was not enough room in psychopathic hospitals to accommodate by any means all of the insane, even in times of peace. Prozoroff estimates that, under peace conditions, the proportion of insane in the Russian army is .6 per 1,000, and quotes figures from Autokratow and Jakubovitz of the Russo-Japanese war—1.9 and 3.45 per 1,000 respectively. The Petrograd Commission of the Red Cross estimated that

the proportion of insane in the Russo-Japanese war was 2 per 1,000, and believed that it would be less during the present war, owing to more favorable conditions, such as control of alcoholic beverages, the fact that the field of action was not so far distant, and the generally higher morale of the army. Prozoroff believes that the number of insane in the present war will mount to four or five figures, and that, even during the first year, will reach six or seven thousand. This calculation was made in June 1915.

Vyruboff emphasizes the necessity for closer cooperation among the various organizations for the care of wounded and sick soldiers namely, the associations of the cities and zemstvos, the Red Cross, the military authorities and the civil hospitals that care for insane soldiers, if the problem is to be handled at all adequately. He believes that the collecting of the insane from the front and from the rear, and their transportation to the interior should be the task of the Red Cross and the military authorities; that their treatment in the interior and aftercare should be the task of the various private organizations for the aid of insane soldiers. The business of distribution should be in the hands of the unions of cities and zemstvos, because this process should be facilitated by the close relationship existing between zemstvo and city organizations, which are in control of most of the civil psychiatric institutions. He also recommends the building, in the chief cities of the provinces, of special hospitals for the care of the insane so that sufficient accommodation may be ensured for the increase in the number of mental cases. Special governmental aid should be given to the unions of zemstvos and cities in the care of the insane, for it is the duty of the state and of the unions to provide adequate care for such cases discharged from the army. They should, in so far as is possible, be returned to their homes, and adequate supervision supplied as long as is necessary. It is also most important that psychiatrists should participate in the deliberations of military commissions which have to do with the administration of the problem of the insane soldier. In order to make the best use of information obtained as a result of the experiences of the present war, a central bureau of statistics is absolutely essential to systematize and put in usable form the data collected. Otherwise this great mass of information will have little value. Furthermore, a special psychiatric commission should be organized to cooperate with the unions of zemstvos and cities in charge of wounded and sick soldiers. At the time this paper was written, some such organization existed, composed of the Psychiatric Committees of Moscow, a psychiatric committee made up of psychiatric subcommittees in the union of zemstvos and cities, and the Association of Russian Psychiatrists. Vyruboff advises the division of this central commission into four district committees to serve in various parts of the Russian Empire.

Sergieeff, in discussing the psychiatric situation in the present war, comes to the following conclusions:

1. Psychiatric hospitals in the provinces seem to be absolutely essential as places for the final care of insane soldiers.

2. At present the general civil hospitals of the provinces are over-crowded and so unable to accommodate more cases; therefore additional facilities are absolutely necessary, especially for institutions located near large evacuation centers.

3. Since the care and treatment of insane soldiers was delegated to the Red Cross and the unions of zemstvos and cities, it is most important that these agencies should cooperate successfully.

4. There is great need to increase the number of civil hospitals, preferably by building pavilions, or even by the use of any available temporary quarters.

5. A suitable working agreement should exist between the Red Cross and the provincial psychiatric organizations; to further this end, the latter should be officially recognized, not as a supernumerary, but as a chief agency in the care of insane soldiers.

Shumkoff, G. Y. The Number of Military Insane. Psikhiat. gaz., Petrograd, 2: 363–66, 1915

The author opens his article with a critical analysis of methods that have been employed in Russia in estimating the number of the military insane in the present war. He believes that such a computation can be made only indirectly. The number of insane soldiers in the Russo-Japanese war was estimated by Autokratow as 1.9 per 1,000; by Shumkoff as 2 per 1,000; and by Yakubovitz as 3.45 per 1,000. The author feels that a method leading to such different results must be unreliable; he explains this divergence in the figures by the supposition that they apply only to cases that passed through various institutions and so were registered, but that they do not take into account those men, who, for various reasons, did not have hospital care. In his statement of the number of the military insane, he includes his estimate of these hitherto uncounted cases.

The interest of military authorities in the insane must necessarily be based upon practical necessity. In other words, they have absolutely no concern for the mentally diseased so long as their disorders do not reveal themselves in abnormal behavior. It is only when, as a result of his malady, the soldier has become incapacitated and unable to perform the required duties that he draws upon himself the attention of the military authorities. The number of psychoses that pass unnoted on account of this fact is unknown, but the author believes they are not rare, especially in the case of those suffering from acute transitory conditions. Furthermore, the fact that military authorities often suspect psychopathic soldiers of malingering frequently results in their keeping a man under observation until his psychosis has passed, hence he never reaches the proper institution. The author knows personally of such cases, especially one in which the soldier, afflicted with intense anxiety states and hypochondria, ended his life by suicide. It appears, from available statistics, that simulation of mental diseases in the present war is extremely rare. Certainly such cases are by no means of sufficiently frequent occurrence to justify the keeping of insane soldiers away from proper institutional treatment, and so incurring the risk of occasional suicides, simply because a longer period for observation is required by military authorities because they suspect malingering.

In accordance with Russian military regulations, officers who have suffered more than one mental breakdown, or who have been committed twice to an institution for the insane, are discharged from the army. Also, commanding officers send as few of their men as possible to hospitals for the insane, and when they do so, it is usually for observation only, not for treatment. The author believes, from personal experiences, that commanding officers prefer to grant their men furloughs, in every case when this is possible, rather than send them to psychopathic hospitals.

Only those men who are a real menace to the service are considered insane and properly dealt with. The mentally diseased who do not disturb the routine of army life are retained in the ranks. The author knows this to be a fact from his own experiences in the Russo-Japanese and the present war. On the other hand, during wartime, the military authorities send men to hospitals for observation who, in time of peace, would not be considered insane. Among these are alcoholic cases, psychasthenics, various types of degenerates and individuals of hyperemotional temperament. These types are sufficiently disturbing in wartime to justify the authorities in considering them insane. The handling of the problem by the military authorities, therefore, is based entirely upon utilitarian criteria and not upon clinical facts.

Military law must be severe and rapid. The author thinks it probable that many of those charged with military offenses are insane. He bases his opinion upon the fact, that, in those instances where the authorities have possessed softer hearts and more liberal minds and, as a result, sent more cases of military

delinquency to hospitals for observation, the offenders have been frequently found to be insane. Also, in times of peace, when military law need not work so rapidly and so can take more time for careful psychiatric examination, many men charged with breach of discipline and other offenses against military regulations are found to be afflicted mentally.

It is well known that many insane men are killed in battle. The proportion during the Russo-Japanese war was found to be 2 per 1,000 of killed.

Also, there are cases of insanity among prisoners of war. For this reason an estimate of the number of military insane should include those made prisoners by the enemy.

Probably a number of mental cases are overlooked by the psychiatric units in the process of transfer. On the battlefield there is no time or opportunity for filling out blanks, and the soldier who shows evidences of insanity is simply passed on to the rear with the remark, "No use making out the blanks; they'll find out soon enough in the rear what's the matter with him." Thus it often happens that the quieter type of case, who does not show by objective signs that he is mentally unbalanced, passes along the line and finally arrives at a general hospital, having missed all the psychiatric services of which he might have taken advantage en route. It is only those who force themselves, by obviously psychopathic conduct, upon the attention of the transportation services that are sent to the psychiatric units. This partly accounts for the great divergence of opinion, at the beginning of the war, on the part of military authorities at the front on the one hand, and the civil and general hospitals of the interior on the other, as to the number of military insane. Many cases entirely overlooked at the front, or at units near the front, eventually found their way to civil hospitals in the interior of Russia, where they were diagnosed as insane. Nevertheless, the author cannot agree with Kashtshenko that 34.6% of all cases sent from the front to general hospitals are insane. However, in estimating the whole number of the military insane, the number of cases overlooked by the psychiatric units at the front must undoubtedly be estimated and added to the number of registered cases in order to arrive at a reliable total. Another item to be considered is the fact that mental diseases developing in connection with physical disorders are frequently not registered as cases of insanity by general hospitals, but as general medical or surgical cases. The article makes very evident the absolute necessity for adopting some systematic method for registering and tabulating information about our own military insane, if our statistics are to be of any practical value.

Soukhanoff, S. A. Data on War Psychoses. Psikhiat. gaz., Petrograd, 2: 106, 165, 204 and 271, 1915

The author describes types of mental disorder arising in connection with the war and draws the conclusion that, up to this time, no properly called "war psychosis" has been developed. The effect of the war upon mental states is to superinduce a distinctive coloring, or special characteristics, upon the various well-known psychotic entities. This is especially true in the case of so-called "traumatic psychoses," particularly those developed in connection with "air contusions." Emotional shock must also be considered an etiological factor. Various psychogenetic affective symptoms are present in this condition, as well as, in most instances, phenomena caused by organic injury, which led French clinicians to describe the state as "hystero-organic."

Further conclusions of the author are:

1. A depressive-melancholic syndrome often develops in connection with the various psychotic entities, a condition often found in mental cases in the Russo-Japanese war.

2. This depressive-melancholic syndrome, which attends the initial stages of dementia praecox, may tend to conceal the underlying disorder and so make very difficult a clear, differential diagnosis.

3. In as much as a general depression of the psychic functions was often found during the Russo-Japanese war, a similar depressive syndrome will no doubt appear frequently during the present war.

Soukhanoff, S. A. Effect of Air Concussion on the Central Nervous System. Russkiy ¦vrach 14: 1010–13, no. 43, 1915. References

Nervous disorders arising in soldiers from violent shell explosions are, according to Soukhanoff, in the great majority of cases due to organic causes. Though no external signs of lesions can be found, no wounds of the skin or head and no fractures, etc., the resulting symptoms such as mental confusion, depression, amnesia, ear and eye disturbances, paralysis, etc., are due to real anatomic changes in the central nervous system. This assumption is sustained by the findings in the spinal fluid such as blood, abnormal albumin content and lymphocytosis, and the subsequent wasting of muscle. Psychogenous and hysteric symptoms may complicate the clinical picture, but they are of secondary nature. Therefore Soukhanoff thinks that the disturbances should not be entitled "contusion psychoneurosis" but should be designated as air traumatism of the brain and spinal cord. The pathogenesis of these lesions may be explained partly by the action of the rarified atmosphere from the passing shell and partly by the formation of emboli in the blood, as in caisson disease. The immediate action of the condensed air may hurl the man to the ground and cause a state resembling so-called concussion of the brain. The poisonous gases resulting from the shell explosion, the emotional shock and, possibly, hemorrhages in the central nervous system from an involuntary violent muscular effort are among other factors liable in this morbid condition.—J. A. M. A. 66: 392, Jan. 29, 1916.

Timofieyeff, A. V. Statistics of Mental Disease in Forces Engaged in Active Warfare During the Present War. Psikhiat. gaz., Petrograd, 2: 341, 1915

The author deprecates the extreme unreliability of statistics concerning mental disease in the Russian army that have been gathered up to this time, and attributes this unreliable character to the fact that no provision was made, at the beginning of the war, for proper registration of such cases. He makes a strong plea for the founding of a central bureau of statistics, to have for its aim the establishment of uniform methods for registration at the various fronts and hospital units through which mental and nervous cases pass. He thinks that a distinct division should be made between cases developing at the front, where actual fighting is going on, and those developing at the rear, where there is no participation in active warfare.

While, so far, no proof of a distinctive "war psychosis" or "neurosis" has been demonstrated, the author believes, nevertheless, that psychoses developing after participation in active warfare show a characteristic coloring. Even chronic disorders and epileptic psychoses receive a special tint when they develop at the front in the midst of action.

Timofieyeff's suggestions are especially applicable to the situation in the United States, and some effort should be made to establish as soon as possible a uniform system of registration and a central bureau of statistics, so that our data concerning the effect of the war upon the mental health of the participants may be more reliable and valuable than those furnished by the Russian authorities. One of the chief reasons for the Russian difficulties along this line lay in the fact that, at the beginning of the war, the care of the military insane was

delegated to the Red Cross, which organization was, at the time, in a state of considerable friction with the administrators of civil hospitals for the insane and the practising psychiatrists. The two latter factions also seem to have been, just at this time, on bad terms with the military authorities. This state of affairs shows the absolute necessity for a clear and firmly established mutual understanding between parties from the beginning so that friction in co-operation may be minimized.

Timofieyeff, A. V. Where Do Men in Active Service Become Insane? Psikhiat. gaz., Petrograd, 2: 261, 1915

The author believes that this question is not without theoretical as well a-practical significance. He has heard it often stated that mental disorders des velop most frequently in the trenches at the front. The insane soldier is usually in a state to give so little reliable information about his experiences that it is very difficult to settle this point by questioning the patient. The writer, however, was able to gather some reliable data on this subject, which he presents according to the type of the disorder.

Epileptics, including both the somatic and the psychic types, numbered about 13% of all cases. They are not infrequently found in the trenches, and, since it is obligatory to remove them from the army, although they may have had only one attack, they were all discharged to the rear. In the rush of recruiting, many epileptics were allowed to enlist, who, had their true condition been known, would certainly have been rejected. Most epileptics reveal the presence of the disease long before they reach the front.

Traumatic psychoses and neuroses of all types constituted about 1%. In the majority of instances these conditions developed in the trenches or upon the field of battle. In the lazarets and hospitals only various psychotic and neurotic complexes, with an existing trauma of a physical nature, were found. Only occasionally did an acute psychosis, with physical or psychic trauma, develop at the front.

Acute hysterical psychoses, with the full quota of the chief hysterical syndromes, and various forms of psychasthenia amounted to about 1%. These not infrequently developed at the front. Here especially were found fear and anxiety states brought about by heavy bombardment.

Acute psychoses—amentia, manic-depressive states, acute paranoia and dementia praecox—amounted approximately to 30% of all patients. These cases usually developed in connection with some acute infectious disease, such as grippe with very high temperature. They were, therefore, usually found in the more or less distant hospital units used by the army.

Chronic disorders constituted about 20% of all cases. These included chronic paranoia, certain forms of dementia praecox, paresis and various types of mental defect. Most of these cases were detected at the rear by their inability to meet the requirements of a soldier's life. Just how many of them reached the front is not known but it may be assumed that only a few were able to do so.

The author concludes that acute mental disease is rare at the front, but comes to light chiefly in the hospitals not far from the front and in the lazarets. Chronic disorders are found still farther to the rear of the army.

Gerver, A. V. Influence of the War on Neurasthenia in Soldiers on Active Service. Russkiy vrach 15: 220 and 241, 1916

Gerver found from repeated observation of neurasthenia in soldiers that it manifests itself in the war environment with the same clinical symptoms as in time of peace. The specific features are impulsive ideas and phobias; even the

entire sphere of consciousness may suffer. The existing conditions of warfare imprint special features on the neurasthenia. The forms with agitation show during periods of hot battling, while trench warfare elicits the more torpid forms of neurasthenia. The physical symptoms also are the same as in time of peace, headache, dizziness, tinnitus and diminished hearing. Clavus, that is, an acute sharply localized pain, especially in the occipital region, is also very common, and hysteria is a frequent complication.—J. A. M. A. 66: 1897, June 10, 1916.

Reformatski, N. N. Psychiatric Services of the Russian Army and Red Cross. Russkiy vrach, Petrograd, 15: 230–34, 1916

Operations were begun in October 1914 by building two hospitals for receiving the insane, one in the Vilna district of seventy-five beds, and one in Warsaw of sixty-five beds.

The Vilna district receives its insane from the evacuation stations of eight of the "governments" (departments or states). Up to May 1st, 1915, there passed through this hospital 33 insane officers and 550 men of lower rank, making a total of 583. Of these 28 officers and 420 men were sent to Petrograd or Moscow; 18 were transferred to other hospitals, and 6 died. On May 1st there remained in hospital 4 officers and 64 men of lower rank. Expenses were borne by the Red Cross. Up to May 1st, 1915, the personnel of the Vilna hospital consisted of 1 military and 3 Red Cross medical officers, a superintendent, 11 Sisters of Mercy and 30 orderlies and attendants. At a railway station near this hospital were kept for the transportation of the insane from the evacuation stations to the reception hospitals and thence to the interior of Russia, 1 second-class, 4 third-class and 1 fourth-class cars.

Through the Warsaw receiving hospital were passed, up to May 1st, 1915, 101 insane officers and 559 men of lower rank, making a total of 660. Of these 60 officers, still insane, and 431 men of lesser rank were sent to Moscow; also 4 officers who had been cured and 2 enlisted men; 8 officers and 49 men were transferred to other hospitals; 8 died. On May 1st there remained in hospital 20 officers and 69 men of lesser rank. At this hospital, there was closer cooperation between the Red Cross and the military authorities than at the other. The Red Cross did most of the work. The personnel consisted of 5 Red Cross and 1 military physicians, 2 physicians resident at the hospital, 2 for attending to the evacuations, 2 for emergencies, 11 Sisters of Mercy, 27 ward attendants, 11 assistants for administration and house-management, 20 transportation attendants, 11 train attendants, 4 office helpers, making a total of 75 attendants and helpers. In Warsaw were kept for transportation of insane soldiers 2 second-class, 8 third-class and 2 fourth-class cars, with 3 additional ones for emergency and short distance usage.

It usually took from two to three days for a stricken soldier to reach this hospital for treatment. In order to make earlier treatment available, small units of five to ten beds were established in Riga and Grodno. These were in charge of the Red Cross Sisters of Mercy, with attendants to help them, the whole under the supervision of local psychiatrists. When several cases had been collected, they were transferred to Vilna and, in some instances, direct to Petrograd. They were sometimes accompanied by Sisters of Mercy, but more often by psychiatrists of the Red Cross called from Vilna.

In Bielstock there was a railway car for receiving and transporting insane soldiers. In Vitebsk the military insane were kept in a local institution until transferred to the unit. Sometimes it became the duty of station-masters to receive insane soldiers and place them in separate cars on regular trains, or on special trains, to be transported to the receiving hospital. One to six cars for the insane were usually attached to hospital trains. Sometimes such cars were attached to freight or military trains. Special trains for the insane are rarely

used. If there was a dining-car, the patients were fed on the train; if not, meals were ordered at various stations so as to be ready when the train arrived. Food is always carried on the trains. There had, at the time the article was written, been no accidents during evacuation; of course very close supervision of patients was necessary. The only disturbing incidents were fights and suicidal attempts without serious consequences.

Urstein, M. S. Mental Derangement Caused by the War or Due to Brain Lesions. Russkiy vrach, Petrograd, 15: 246–47, 1916

According to Urstein's observation, psychic disorders caused by brain trauma develop usually only when more or less extensive portions of the gray matter of the cortex are involved, though it is possible for even circumscribed lesions of the brain as, for instance, fracture of the skull, hemorrhages, etc., to affect the mind. The immediate result of brain trauma is mental confusion. The patients appear somnolent, dazed, forgetful and absentminded. In severe cases unconsciousness may last for hours and even days. Other symptoms are headache, fainting, dizziness, vomiting, slow pulse, pupil disturbances, paralysis and convulsions. The mental confusion usually shows immediately after brain trauma, but in some cases only after an interval of hours or days. In addition there are observed changes in the character; excessive sensitiveness, excitability and irritability, exhilaration, maniacal states and hypochondriac ideas. In general, the clinical picture resembles that of traumatic delirium. The symptoms of delirium become more pronounced when the course is unfavorable, which may be due to abscess formation or to a meningo-encephalitis. In such cases somnolence sets in, followed by coma, convulsions, paralysis and rise in temperature.

The most frequently observed psychosis was catatonia, next in frequency, psychopathic constitutional anomalies, epileptic insanity and finally manic-depressive states. Urstein has also encountered cases of the so-called exhaustion psychoses, hysterical psychoses and progressive paralysis of the insane. The latter was observed only in soldiers over 30 years old. There does not seem to be any specific psychosis, according to Urstein. He claims that a psychosis develops only when there was a certain predisposition. That is, the elements of the psychosis were present before the man went to war; the latter but hastened its development. In general the so-called war psychoses do not differ from those in time of peace though the clinical symptoms may be somewhat peculiar, depending on the character of the warfare.—J. A. M. A. 66: 1897, June 10, 1916.

Sereisky, M. Y. The Nervous and Psychic Conditions with Poisoning from Asphyxiating Gases. Russkiy vrach, Petrograd, 16: 401–03, March 20, 1917

Sereisky reviews sixty cases of poisoning from gas attacks, and discusses in particular the nervous and mental condition of seven reaching his service six or eight weeks later. The symptoms indicate, he reiterates, that the gases contain some substance or substances which have a direct toxic action on nerve tissue. Inherited nervous taints render the nerve tissue peculiarly susceptible to the action of this toxic substance.—J. A. M. A. 69: 2007, Dec. 8, 1917.

Smirnoff, D. A. Two Cases of Severe Traumatic Neurosis, Following Contusion, Cured by Hypnotic Suggestion. J. nevropat. i psikhiat. Korsakova, Mosk., p. 312–24

The author describes two very interesting cases of "traumatic neurosis." The patients were Russian army officers. The predominant and most interesting symptom in one case was a complete mutism. In the other, it was total

bilateral deafness. The patients, before they came under Smirnoff's care, had spent some time in neurological institutions without benefit. The author used hypnosis in treating the two cases. Complete cure resulted in both after several sittings during which hypnotic suggestions were made to the patients. The writer deprecates the fact that military authorities fail to recognize hypnosis as a valuable method of treatment for such cases, and urges a more general use of it. The article adds nothing of significance to the usual clinical picture of the so-called "traumatic neurosis."

LITERATURE OF THE UNITED STATES

Periodicals Abstracted

American Journal of Insanity
American Medicine
Boston Medical and Surgical Journal
Bulletin of the Johns Hopkins Hospital
Harper's Monthly Magazine
International Clinics
International Medical Annual
Journal of Nervous and Mental Diseases
Journal of the American Medical Association
Medical Record
Military Surgeon
New York Medical Journal
Reports and Bulletins of the Surgeons-General of the Army
Reports and Bulletins of the Surgeons-General of the Navy
United States Naval Medical Bulletin

Richards, Robert L. Mental and Nervous Diseases in the Russo-Japanese War. Mil. surg. 26: 177–93, Feb. 1910

In the Russo-Japanese war, for the first time in the history of the world, mental diseases were separately cared for by specialists from the firing line back to the home country.

After a brief sketch of the care and treatment of the insane in Japan, Captain Richards takes up mental disease in the Russian Army during the Russo-Japanese war. The number of cases was unusually large, reaching possibly 1,500 up to 1904, and 2,000 in 1905–1906. Harbin was early selected as a central point for collecting these cases. "The number of admissions increased rapidly from month to month, being six times as many the last month as the first month." Because of this increase, the army medical department could not provide for the cases, so the work was taken over by Professor Awtokratow, of the Red Cross Society of Russia. A hospital and dispensaries were established, an ambulance followed the troops for cases occurring during action, and whenever possible, cases were sent to Russia. Captain Richards describes in detail the wonderful work done by Professor Awtokratow and his staff of doctors and nurses, not only in the hospital and dispensaries, but also on the field and on the way back to Russia, both on land and sea. Two tables showing the character of the work at the central psychiatric hospital at Harbin are given.

The psychoses of war are chiefly depressive in character. Fear of the comparatively harmless gas-bombs of the Japanese was one form of psychosis.

Richards, Robert L. Study of Cases of Mental Disease from the Standpoint of the Military Surgeon. Mil. surg. 26: 529–38, May 1910

"For a long time mental diseases have been regarded the least understood of all the diseases with which the military surgeon has had to do," and there is very little information about case histories available. The reasons for this are threefold: first, military life exposes soldiers to unusual stresses, resulting often in acute mental diseases of comparatively short duration, with very large recovery rate; second, in all mental disease the hope for recovery is almost exclusively in the early stages before permanent damage is done to brain structures; and, third, unless there is a record of the facts observed in the case before its transfer, the authorities at the government hospital have very little from which to judge of the early stage of the disease, and are often hampered in this respect in judging the character of the mental disease and its probable termination.

In order that these difficulties may be met and disposed of in the environment in which they arise, a "Scheme for History and Examination of Mental Cases" has been issued by the Office of the Surgeon-General (March 24, 1910). This scheme is more simple and concise than most of those used in foreign clinics and so meets better the requirements of the army. The author quotes the scheme in full. It comprises data as to family history, history of patient, present illness, general physical examination, neurological examination, and mental examination. Captain Richards follows the scheme with comments upon the different sections, treating especially in detail the section for mental examination.

Butts, Heber. Insanity in the Navy. U. S. naval med. bull. 4: 459–75, Oct. 1910. Illus.

This article covers admissions of insane men of the Navy and Marine Corps into the Government Hospital for the Insane from January 1, 1899, to June 1, 1910.

"The mental patrimony of many of the insane men of the navy was squandered by their dissipated ancestors long before they entered service; others began life well, but their mental capital was limited, and in the struggle for existence it was nearly all expended prior to their entry into the service, so that they really enlisted as psychopaths. These psychopaths have, for the most part, been the shiftless, irresponsible men of the service. Prior to their enlistment an unduly large proportion of them have been professional tramps or hoboes, and after their entry into the service, they become malingerers and general court-martial prisoners."

Usually insanity becomes apparent within a comparatively short time after enlistment. In most cases the mental disorder, or predisposition thereto, exists prior to enlistment or is due to causes not in the line of duty, such as alcohol or syphilis.

The recovery rate of insane men in the navy is much higher and the death rate much smaller than in the case of the insane coming from civil life. Nearly seventy per cent of the insanity in the navy occurs in men under thirty years of age, probably because the majority of men in the navy are under that age limit. Of the foreign born, Ireland furnishes a conspicuously large number of insane men, and for that reason great caution should be exercised in enlisting the Irish. The Germans show the best mental make-up. The percentage of privates in the navy is relatively small, but the percentage of privates becoming insane is relatively large, probably due to the fact that the recruiting work for the U. S. Marine Corps is performed largely by civilian physicians, many of whom fail, from lack of experience, to appreciate at all the type of men desired. The following table gives the forms and percentages of the psychoses in the navy as diagnosed by hospital authorities:

Psychoses	Number	Per cent	Whole hospital admissions, fiscal year 1909
Dementia praecox	177	33.52	237
Manic-depressive(circular, recurrent)	43	8.14	72
Acute melancholia	90	17.04	
Acute mania	37	7.01	
Acute dementia	13	2.46	
General paresis	27	5.11	50
Chronic melancholia	15	2.84	
Epileptic psychoses	11	2.08	16
Confusional insanity	12	2.27	
Imbecility	9	1.70	8
Paranoia	7	1.33	38
Chronic dementia	4	.76	
Traumatic insanity	3	.57	1
Chronic mania	1	.19	
Organic dementia	1	.19	
Terminal dementia	1	.19	
Delirium tremens	2	.38	
Alcoholic hallucinosis	5	.95	
Acute alcoholism	1	.19	
Korsakow's psychosis	1	.19	
Intoxication psychoses			
Alcohol	16	3.03	54
Morphine	2	.38	1
Cocaine	2	.38	1
Potassium bromide	1	.19	2
Cerebral syphilis	2	.38	5
Infection—exhaustion psychoses			
Malaria	2	.38	
Typhoid fever	1	.19	
Confusion in a degenerate	1	.19	
Hysteria with depression	1	.19	9
Psychasthenia	1	.19	4
Involution melancholia	1	.19	9
Acute hallucinosis	1	.19	2
Depression in a psychopath	1	.19	5
Acute psychosis in a psychopath	1	.19	
Unclassified excitement	1	.19	15
Not insane	14	2.65	11
Not yet diagnosed	20	3.79	
Total	528	100.00	

Another table shows percentage of causes, with alcoholism much the most frequent. Heredity, syphilis and sunstroke are exciting causes in inferior individuals.

Tables showing cases of insanity existing prior to enlistment, and miscellaneous data about family, former life, etc., of patients, prove that candidates for en-

listment should be subjected to mental tests, or a period of several months' probation, and to an examination as to personal history before being accepted. "The service oftentimes secures, as the result of such neglect, an utterly worthless recruit who is quite capable of costing the government two or three times what the four years' enlistment of a desirable man costs, to say nothing of the annoyance of a worthless recruit to other officers in the way of inefficiency, court-martials, surveys, transfers to hospitals, and medical care and treatment." More care also should be exercised in excluding syphilitic and parasyphilitic individuals, and in furnishing for the personnel of the navy diversions and recreation with a view to lessening the desire for outside pleasures, some of which lead to venereal infection. Illustrative cases follow.

Noteworthy features of the article are its valuable statistical tables, and a series of reproductions of photographs of men who passed the physical examination for enlistment but who were mentally unsound.

Stier, Ewald. Progress in the Methods for the Care of the Insane in Time of War. Translated from the German by L. L. Smith for the Military Surgeon 30:332–35, March 1912

The first provision Dr. Stier mentions to be made for the care of the military insane in campaign is the securing of a sufficient quantity of quieting drugs, such as hyoscin, trional and veronal, to be carried on the march.

It is provided in the regulations that military surgeons under certain circumstances are required to maintain a special psychiatric service, and that the supply depots should be prepared to furnish these supplies at once. These are as follows:

12 tubs for continuous baths.

20 box or lattice beds.

20 pairs of shoes that cannot be torn.

80 suits made in one piece, not easily torn and buttoning in the back.

A considerable number of dry earth closets should be available, but precautions must be taken to prevent suicides therein, as these are often chosen by insane patients for this purpose.

The staff for the psychiatric department should be chosen as much as possible from sanitary officers and soldiers who have had some training or experience in the management and care of the insane.

"Arrangements for the procuring of railroad cars which are suitable for the transportation of the insane has, until the present time, not been especially provided for. The conversion of the ordinary cars of the hospital train into those especially suitable for this purpose could be arranged without much trouble. . . . The expeditious transportation of the military insane to their destination without changing cars is considerably facilitated by the provision of the regulations which requires that the number of places where the military insane are to be distributed should be especially designated by the line commanders, and that this list should be adhered to continuously throughout the trip. The line officers will then inform the Chief of the Field Sanitary and Transportation Departments of such arrangements." The personnel for the care of the insane during transportation should be as efficient and experienced as possible.

Butts, Heber. Further Observations of the Insane of the Navy. U. S. naval med. bull. 6: 193–212, April 1912. Illus.

This report deals with 146 men of the Navy and Marine Corps admitted into the Government Hospital for the Insane from June 1, 1910, to December 31, 1911. It supplements Surgeon Butts' report published in 1910.

A table giving percentages of "recovery," "improvement," "died," etc., shows the usual large number of discharged as "not insane," proving that, in

many cases, the patient was evidently convalescing from some temporary mental disturbances, and in other cases really not insane, but recovering from some unusual strain, dissipation, etc. Cases follow. Another table shows that insanity usually occurs under thirty years of age, and that proportion of insane under this age has increased since Surgeon Butts' former report of 1910. The proportion of foreign born insane has slightly decreased since the report of 1910. The proportion of insane privates has also decreased since that date, due probably to more careful selecting of recruits.

Tables giving naval and hospital diagnoses of mental disorders, with percentages of occurrence, follow.

Table Number 6

Hospital diagnosis	Number	Per cent	Hospital diagnosis	Number	Per cent
Dementia praecox	66	46.81	Acute confusional insanity	2	1.42
Symptomatic depression	1	.71	Undifferentiated mental depression	1	.71
Manic-depressive insanity	5	3.54	Alcoholic hallucinosis	1	.71
Dementia paralytica	15	10.64	Infection psychosis	1	.71
Cerebral syphilis	5	3.54	Post-traumatic psychopathic state	1	.71
Psychoneurosis	1	.71	Diagnoses not yet determined	5	3.54
Not insane	29	20.57			
Traumatic psychosis	1	.71			
Prison psychosis	1	.71			
Imbecile	3	2.13	Total	141	100.00
Psychogenetic depression	3	2.13			

"Many of these cases are merely those of psychopathic individuals not mentally strong enough to withstand the peculiar stresses of navy life, but well able to support themselves in other ways. These cases should be cared for in the psychopathic ward of a naval hospital until cured. It is a fine blunder to transfer an officer or enlisted man to an insane asylum who manifests only a few temporary or no symptoms at all of mental disorder after his transfer to that institution, but it is an equally fine blunder not to transfer to an insane asylum a man suffering with a chronic mental disease, often of very insidious onset, like general paresis and some cases of dementia praecox, or to punish in a naval prison, on sentence of general court-martial, a man who is mentally irresponsible, and has committed some offense while in this condition." Naval offenders should always be examined, before court-martial sentence is passed, by a medical officer trained in psychiatry for evidence of mental disorder, or constitutional mental inferiority.

"Desertion, drunkenness and fraudulent enlistment are the most common offenses of these insane men." Only two cases of malingerers were found among those studied. There is apparently a marked increase in the number of cases of general paresis.

A series of reproductions of photographs of mentally abnormal and defective types follows.

Riker, G. A. Treatment of Insane in the Navy; being a Discussion of the Temporary Treatment of Mental Aliens Prior to their Commitment to the Government Hospital for the Insane. U. S. naval med. bull. 7: 77–86, Jan. 1913

This article is confined to conditions arising early in psychoses, with suggestions for treatment.

"The mental diseases most commonly observed in the navy are dementia praecox and manic-depressive insanity, with an occasional case of paresis, alcoholic delusional insanity, Korsakoff's disease, the psychoses sometimes associated with epilepsy and rarely paranoia."

As ordinary methods of treating cases of mental disease are almost impossible on board ship or in naval hospitals, members of the hospital corps must closely watch all patients, first, to study the case for treatment; and, second, to prevent self-destruction, or injury to others or property.

Some points to be investigated follow:

1. Endeavor to procure as detailed as possible an account of patient's former life and of his family.
2. History of oncoming attack, attitude toward and character of his work, manners, recreations, personal habits, domestic relationships.
3. Careful physical and mental examinations, noting all symptoms of mental abnormality.
4. An accurate account of the patient's present actions and habits must be recorded.

"While the patient with suicidal tendencies is a constant source of anxiety to a medical officer of a hospital for the insane, that anxiety is increased tenfold with the medical officer of the navy, as he must leave his patient in the care of men untrained in handling the insane, and often in quarters that are not desirable for such cases: the latter is particularly true on board ships, where it is frequently necessary to place such patients in the brig for safe keeping."

The writer then takes up the question of establishing special pavilions for the reception of such cases.

"Primarily we must have constructed at several of our hospitals a special pavilion for the reception of these cases. It would be advisable to have these additions at Boston, Washington, Mare Island, and Canacao, in order that all persons of the naval service becoming insane at Newport, Portsmouth, N. H., and Chicago can be immediately transferred to Boston; those from New York, Philadelphia, Annapolis, Norfolk, Charleston, and Port Royal could be gathered at Washington, Mare Island acting as the receiving ward for Puget Sound, Samoa, and Las Animas, and Canacao receiving insane patients from Guam and the remainder of the Asiatic station."

The type of construction suitable for a hospital for mental patients is described in detail. Instructions for members of the hospital corps are given in full for care and treatment of mental patients.

Schier, A. R. Detection of the Feebleminded Applicant for Enlistment—Value of the Binet-Simon Scale as a Diagnostic Aid. U. S. naval med. bull. 7: 345–60, July 1913. Illus. References

On account of the startling increase of mental defectives, it becomes the serious duty of the medical officer to examine carefully into the mental status of all applicants for enlistment, using every diagnostic measure to exclude mental misfits. Idiots and low grade imbeciles are so easily recognized that their exclusion is a simple matter, but the detection of the high grade moron, often physically perfect, attractive and bright looking, presents difficulties to be solved only by the use of some kind of mental test. The Binet-Simon system was tested on a series of applicants for enlistment at St. Paul.

From testing 100 applicants by these scales, the following results were tabulated:

Number passing 15-year tests	89
Number passing only 11-year tests	6
Number passing only 10-year tests	1
Number passing only 9-year tests	4
	100

Of the eighty-nine classed as normal, fifty-two were rejected on account of physical defects, leaving thirty-seven desirable for enlistment.

Physical defects were more frequently found among applicants failing on the fifteen-year tests, occurring in seventy-two per cent of those failing, and in only fifty-eight per cent of those passing. Three of the eleven given a mental age of from nine to eleven years were perfect physically, and no mental defect was made evident by their appearance, behavior, or manner of talking. The ordinary reading and writing test would have been passed by them and they would have been accepted for enlistment.

Conclusion—"The Binet scale in the examination of applicants for enlistment is practical and is a quick method of estimating their mental status, and therefore is an aid in the detection of mental feebleness which would otherwise pass unrecognized."

Stokes, C. F. Editorial [on Mental Preparedness in the Navy] U. S. naval med. bull. 7:417–19, July 1913

The slight but continued increase in the number of cases of mental disease in the navy is a subject for serious consideration from the standpoint of service efficiency, as well as from that of pecuniary loss to the government. The number of these cases stated to be not in line of duty indicates the general opinion of medical officers that in the large majority the disease, or the tendency thereto, exists prior to enlistment. The serious problem of detecting and excluding those of unstable mentality is thus presented to the medical examiner.

Under the most favorable conditions, allowing prolonged observation and repeated examination, the determination of underdeveloped or defective mentality in the borderline cases is exceedingly difficult. Familiarity with the conditions and influences to which a medical officer is subjected in recruiting makes it evident that with his narrow cross section of the man's life, consisting of observation for only a few minutes, he can not hope to detect mental obliquities that would show plainly in a longitudinal section covering a month or more.

For those classed as feebleminded various tests, notably the De Sanctis and the Binet-Simon, have been under investigation by psychologists and educators with the purpose of evolving a method by which the mental development of an individual can be determined. An article in this number of the *Bulletin* describes the Binet-Simon test and shows its applicability to service conditions in detecting the feebleminded applicant for enlistment. No value is claimed for this system in diagnosing mental conditions other than feeblemindedness, and even here are certain restrictions that greatly limit its practical usefulness.

Its general adoption, in the present state of its development, is therefore inadvisable, but it marks an advance in our methods and is worthy of further trial by medical officers on recruiting duty, who would do well to familiarize themselves with this method, that they may take advantage of its good features while bearing in mind its limitations.

In this connection it may be pointed out that what is coming to be known as "temperamental fitness" is attracting increasing attention, and certain lectures delivered at the Naval War College during the past year indicate that its important relation to the service is recognized. There are persons whose mental processes do not appear to be individually defective, and yet, when their intel-

lectual activities are applied as a whole, they lack a certain co-ordination of directive force, which lessens their value or completely unfits them for a military career.

That mental equipment and training for the operations of war are at least as important as material preparation should be continually in the minds of all, and this subject deserves more study in order that methods may be developed and standards established whereby the temperamental types can be classified and those who are desirable can be distinguished from those who are temperamentally unsuited for military activities. This study must be applied equally to officers and men, and it is believed that its active prosecution would be well repaid by the results obtained.

Much can be learned by careful observation of the conduct of officers and men in grave emergencies. The results of such observations should be made matters of record and should be considered along with the temperamental characteristics before assignments to important or independent duty are made. The success of our arms at sea may depend largely upon the temperamental qualifications of the commander-in-chief. It is believed that no officer should be sent to sea who shows a positive Wassermann reaction, and especially should he be prevented from assuming high command. It is a matter of common observation to see cerebral syphilis develop unexpectedly under mental strain, inducing an unbalanced mind that would be likely to lead to disaster.

O'Malley, Mary. Psychosis Following Carbon-Monoxide Poisoning, with Complete Recovery. U. S. naval med. bull. 7: 598–99, Oct. 1913.

Carbon-monoxide poisoning is very common, but while a psychic disorder consequent upon it has long been recognized but few cases have been reported. The number of fatalities from this gas is on the increase in industrial occupations. The increasing use of gasoline as a motive power is partially responsible for this, and the opinion of Surgeon-General Stokes, United States Navy, is quoted as to cases occurring in turrets and firerooms of naval vessels.

The symptoms are as follows: Increased blood pressure at first, with slowing of the pulse and pounding heart beats; later, lowering of the pressure, with rapid but small pulse, and, not infrequently, with discrete spots of dilatation in the superficial blood vessels. Remarkably pale-red discoloration of the blood and of the dilated spots; formation of carbon-monoxide hemoglobin is demonstrated by the spectrum. (a) Disturbances of the general health: In mild cases dull headache, flashes before the eyes, giddiness, ringing in the ears, nausea and fullness in the gastric region. (b) In severe cases bluish discoloration of the skin; spasmodic, wheezing respiration; sometimes tonic and clonic convulsions, more often paralytic symptoms, either with weakness of all the extremities, or of the lower only; or, indeed, of only single groups of muscles, including also the facial muscles. The convulsive stage, which may be altogether absent, is succeeded by the stage of asphyxia, with sensory and motor disturbances, involuntary voiding of urine, semen, and feces; subnormal temperature, weak, slow and intermittent pulse; loss of consciousness. As sequels there have been observed pneumonia, inflammations of the skin, paralyses, and psychoses, the last two often pursuing an unfavorable course. Chronic poisoning, among ironers, firemen, and cooks; frequent headaches, dizziness, nausea, vomiting, coated tongue, weakness of memory, anemia without chlorosis, "hot flushes," formication, palpitation of the heart, insomnia, general debility, and feebleness of the psychic functions.

Loss of memory is the most marked psychic symptom of the psychosis. Its onset is generally sudden, differing from traumatic and alcoholic amnesia.

It may be the sole symptom, and it may be transient lasting but a few hours, or days, or again persisting for years. It may appear after a considerable time has

elapsed since the acute poisoning occurred. The amnesia may effect events prior to the accident or again only subsequent to it. Many writers note a marked aphasia, apparently a true amnesic type. A marked reduction in the emotional field is noted by some; there is a fixed masklike expression of the face. Again there may be causeless and uncontrollable laughter.

In the case reported by Dr. O'Malley the patient recovered from the psychosis, but an extended observation of a series of these cases is lacking. In a mine catastrophe at Courrieres with 1,100 victims observations extending over two and one-half years were obtained, and it is reported that none made a complete recovery.

U. S. Navy. Report of Surgeon-General. 1913. p. 9. Diseases of the Nervous System

Admissions under this class decreased from 1,015 to 809. Mental diseases occurred in about the same number as in 1911. Epilepsia showed an increase from 87 to 101.

The subject of mental diseases has received the close attention which is warranted by its important relation to service efficiency. Undoubtedly in the large majority of cases the disease or the tendency thereto exists prior to enlistment, and therefore the most important work in lessening its incidence must be done at the recruiting office by excluding the applicant whose defective mental equipment unfits him for the service.

Throughout the world an increasing interest in the subject of mental defectives is manifested, as a result of the realization of the fact that they are increasing much more rapidly than is the population as a whole. The feebleminded constitute the most dangerous element of any community, their defects are not remedied by association with normal individuals, and they are the enemies of law and efficiency. In the service they are frequently at conflict with military discipline and make up a large part of the malefactors; they are victims of mistreatment at the hands of others, and their unstable mental equilibrium is disturbed by small quantities of alcohol. The change of environment consequent upon entrance into military life alone may be sufficient to cause grave mental derangement in such persons.

Detection of the mentally unfit is often a vexing problem even under the most favorable conditions, and the difficulties are increased greatly by the circumstances under which the determination must be made in the recruiting office. Diagnosis of idiocy and low-grade imbecility is not a difficult matter, but the more dangerous high-grade imbecile, moron or moral imbecile, may be physically well developed, may appear mentally alert and bright, yet have latent immoral and criminal tendencies. The exclusion of these types requires most careful study of the applicant, and the great importance, from a military point of view, of the medical examiner's duties has been frequently emphasized. For the detection of those classed as feebleminded the Binet-Simon tests have been employed at one recruiting office, and the indications are that this method will prove to be of value within certain limits.

In this connection the study of late cases of syphilis, in which there are no apparent symptoms, is of the utmost value, not only in the navy but in civil life. It has been found that those so afflicted may, under strain of great responsibility, develop practically any type of mental aberration known to science.

White, William A. Application of Psychiatry to Certain Military Problems. U. S. naval med. bull. 8: 1–16, Jan. 1914

A lecture giving suggestions as to the problem of "temperamental fitness of men in the naval service," and to assist in enabling the department to better adjust the individual to the specific things that will be demanded of him in time of war.

Dr. White takes up first the question of preventing enlistment of defectives as recruits. As these defectives are not easily recognized at time of enlistment, a three months' probationary period, which now precedes completing of enlistment in the army, was found desirable. He advocates giving all men with a history of repeated offenses a mental examination, as these offenses usually testify simply to mental deficiency and not to wilful misdemeanor.

"The greatest number of mental breakdowns come in the first enlistment, which of course means that as the enlisted man becomes better accustomed to service conditions and has shown in the first instance his ability to fit into the situation, he is more apt to be the man who will go along in the organization without further trouble.

"As at present constituted both branches of the military service have various tests along the line, various opportunities for advancement dependent upon study, good record, and again tests in the way of examinations, and at each one of these tests a certain number of men are eliminated, so that as we go up from the lowest in the ranks to the petty officers, warrant officers and the commissioned officers we have on the way the constant weeding-out process. . . .

"In the first place, such studies as have been made and such statistics, as we might expect, show a considerable increase in the number of mental disorders under actual war conditions. Not only this, but they indicate very distinctly that certain latent tendencies are brought to light by these stresses. We find, for example, an increase in the number of alcoholic psychoses, an increase in the number of psychoses due to syphilis of the nervous system, and an increase in the psychoses of metasyphilis, namely, paresis. . . . Certain recommendations stand out from this situation with a fair degree of clearness. In the first place . . . nobody to whom the term alcoholic could be properly applied should hold a position of commanding importance. . . . The same applies to the syphilitic. . . . "At the Russian Psychiatric Hospital at Harbin, during the Russo-Japanese War, the percentage of paresis among those brought back from the front was 5.6. . . . It seems evident that its development must have been hastened by war conditions, a conclusion which is borne out and re-enforced by the further fact that among the soldiers from the front who were under treatment there were evidences of syphilis in 20 per cent, while among other soldiers under treatment evidences of syphilis were only present in 1.6 per cent. . . . If either one of the conditions of alcoholism or syphilis is serious, then it goes without saying that their combination is doubly so."

Dr. White devotes the remainder of his article to a study of the "temperamental fitness" of the officer from a psychological point of view.

Bispham, W. N. Malingering: Nervous System. Mil. surg. 34: 220–21, March 1914.

"Next comes the simulation of nervous diseases. A large field and much worked over by this class of patients. This will run from convulsion to maniac insanity and will test the doctor's powers of observation to the utmost. Convulsive seizures and simulated epilepsy, after the deception has been detected, can be treated only by making the patient uncomfortable during a fit and letting him thoroughly understand that you are certain he is a malingerer.

"The insane man, so-called, is very hard to treat and each case must be handled on its own merits.

"When the case is a simulation of mania he should be controlled by restraint apparatus and treatment such as ice baths instituted. All of these cases, though, have to be observed very carefully for some time before the attendant can be satisfied in his own mind that the man is not insane.

"Where melancholia or delusional insanity is simulated a careful isolation of the patient on liquid diet and denial of all reading matter will frequently produce a cure. A suspect must be watched continually without his knowledge and

every move noted. After several weeks a magazine may be left on his bed or an attendant may converse with him on the news of the day. Very few can stand the isolation without reading or talking and soon break down under treatment."

Three cases are cited.

"In conclusion I would state that the detection and treatments of malingerers of all kinds requires careful study, and no doctor, particularly in the army, is justified in jumping at conclusions without thorough examination. It is frequently noticed that where a doctor is known to thoroughly examine all cases malingerers are few and unimportant."

King, Edgar. Mental Disease and Defect in U. S. Troops. Bull. no. 5, March 1914, of the Surg.-gen. office, War dept.

This is a rather comprehensive work and is the result of the experience of the writer during over two years' detail at the Government Hospital for the Insane. It includes not only a valuable consideration of psychiatric literature, but also pertinent conclusions which will surely prove of value. The reader will be impressed with the pervading dogmatic tone. However, this is permissible and perhaps desirable, as the bulletin is intended for medical officers, and particularly those on recruiting duty, most of whom have no special interest or knowledge of the subject. These will find it of good utility and practically all meat.

In the introduction attention is called to the importance of the problem of mental diseases from a military viewpoint. In 1912 the percentage of disability discharges for mental alienation was twenty per cent, the discharge rate per 1,000 being 264, which is higher than any other cause. That is, 200 men were found mentally incapacitated, which figures would be increased if hysteria and neurasthenia were included.

Particular emphasis is laid upon dementia praecox, because more than half of the army admissions for mental disease were of this form. No doubt many of the desertions and those discharged as undesirable were of this class.

After considering the history and nature of the disease the cause is taken up, emphasizing the fact that the age involved is that of the likely recruit and that 70 per cent of cases show a hereditary taint.

In course, symptomatology, and prognosis the writer closely follows the Kraepelinian teachings. The fact is noted that the praecox process may be present and producing changes in the mental life and character and conduct of an individual months or years before the disease becomes frankly manifest. This accounts for soldiers who persist in repeated alcoholism, those who desert without apparent cause and shortly afterwards fraudulently re-enlist even though aware of the certainty of punishment, the practical failure, those unable to "get along," the persistent sexual debauchees, the inadequate and inefficient. Numerous characteristically descriptive cases are cited under the various forms of praecox, the hebephrenic, catatonic, paranoid, and mixed.

Under manic depressive psychosis it is noted that this is a comparatively rare disease in the service. This entity is traced in the fluctuations, according to different authors, from the all-inclusive idea of Kahlbaum to the more limited one held at present.

Points noted are the usually hereditary cause; that attacks often occur without apparent reason; not to regard the disease as "line of duty" without carefully searching the history for previous attacks. The excitements of praecox are frequently mistaken for this condition.

The best test of recovery is insight. All cases realize that they have been insane, thus differing from praecox. Recovered cases should not be returned to the service.

Paranoid states are a frequent occurrence in service cases. It is concluded that 5 to 8 per cent are paranoid praecox and that none recover, and that a paranoid picture may be present in other forms of psychosis.

General paresis, next to dementia praecox, is the most common mental disease in the military service. It is sharply defined clinically and is easily diagnosed by the laboratory findings. It is suggested that all cases be thoroughly examined physically and neurologically as well as mentally to avoid error.

Precautionary measures should be taken to prevent the enlisting of syphilitics. The intensive treatment of those in the service and the risk of allowing these potentially insane men on duty, particularly in war time, when the onset of paresis may cause disability, are emphasized.

In cerebral lues no one type of mental picture occurs regularly. There may be simple deterioration, paranoid states, excitements or depressions, a paretic-like condition or a neurasthenic picture, and this latter is an important condition.

The mental impairment associated with arteriosclerosis is emphasized. Alcohol is considered the important factor in producing the vessel change. There are failure of interest and loss of productivity, which are serious in an officer holding an important command. The power of comprehension is lessened; they are easily fatigued mentally, and there is irritability and depression. Not a few officers become mentally inefficient from arteriosclerosis before the age of retirement. They are practically certain to break down under any stress of service.

In the chapter upon "Exclusion of the imbecile and moron from the army" attention is called to the necessity of a correct life history and the connection between the stigmata of degeneration and deficient mental powers. Waiving of physical defects in applicants for enlistment is risky. It is better to keep close to the normal standard.

The writer suggests that it would be advisable at the recruiting depot to send all men who do not do as well as the average in their routine work to the surgeon for mental examination, so that it may be definitely determined whether it is advisable to expend further time and money upon them.

Under the heading of psychopathic make-up is considered a class of individuals who cause the service lots of trouble. They can not cope with the world except in their own peculiar way. They are useless in the regular service, as they are unable to adjust themselves to the discipline. They are persistently insubordinate, excessive in and intolerant to alcohol, and are likely to be addicted to sexual perversion. This type is liable to develop a psychosis, when they are unable to escape by desertion, conditions to which they can not adapt themselves.

It is suggested that court-martial offenders be examined mentally so as to avoid returning to duty those of abnormal mental make-up, in whom this factor was, no doubt, the cause of their offense.

It is not always true that an offender who is able to behave well during his stay at a disciplinary barracks is fit to return to the service. A great number do well under the conditions in such an institution or on probation, but soon lapse when placed on their own responsibility and subjected to alcoholic and accompanying temptations.

In considering borderline cases it is stated that if a soldier or officer reacts habitually in an abnormal manner to events in his daily life to such an extent as to make him relatively useless, perhaps obnoxious or dangerous, or not to be trusted, and at all events entirely unsuited for military service, and no frank mental condition is found, and assuming that he is proof against admonition, and that endeavors to teach him to behave in a normal manner are unsuccessful; that rebuke, reprimand, company discipline, and punishment by court-martial only temporarily or not at all improve his mode of reaction to his surroundings, it will probably be found in a careful history of his life that he has always reacted abnormally, and that the cause of his military and civil inefficiency is constitutional, and that he should be discharged on a surgeon's certificate of disability, not in line of duty.

In the concluding chapter the author sums up and emphasizes certain points, such as the difficulty of classification, the paramount importance of dementia

praecox, which group included 40 per cent or more of admissions here from the military service, and the rarity of manic depressive psychoses. He prefers the use of the terms "depression" and "excitement undifferentiated" to the older terms "mania" and "melancholia," and the same applies to "psychosis undifferentiated." He states that true paranoia is very rare, but that paranoid disease pictures are not infrequent, and the most of these belong to the praecox group. Where alcohol is a causative factor he believes it desirable to report such cases as "psychosis associated with alcoholism," thus emphasizing the alcoholic factor, and if the psychotic state be due to cocain, morphin, etc., a similar form of diagnosis makes the case clear.

As this publication is easily obtainable it would well repay reading the original. —R. Sheehan, U. S. naval med. bull. 8:685–88, Oct. 1914.

Med. rec. 85:622, April 4, 1914. Psychiatry and Certain Military Problems (Editorial)

The importance of psychiatry in medicine is beginning to be recognized and in consequence its study is being promoted in all medical schools. In most modern hospitals opportunities are provided for the clinical study of psychiatry, for it is felt that in these days when degeneracy appears to be rife it is essential that as much as is possible should be learned of the subject. In a lecture delivered at the summer conference, 1913, of the U. S. Naval War College, by Dr. W. A. White, it was pointed out that psychiatry and the military medical service were intimately related, that is, psychiatry was of great importance to the military service, in so far as by its means the enlistment of defectives might be prevented to a very large extent. White is of the opinion that it is a popular delusion that the ne'er-do-well, the black sheep of the family, will be picked up and made a man of by the discipline of military life. According to his views quite the contrary is the case. The ne'er-do-well is so because he lacks the ability of continuous application, and when he is subjected to the rigid discipline of the military organization, he of necessity endeavors to slip from under the weight of his responsibilities and duties and thus begins that series of minor infractions of military regulation which frequently ends so disastrously.

Mental breakdowns are very apt to occur in war time, and if the subject has certain latent tendencies they will be brought to light by the stress and exigencies of war conditions. For instance, it has been demonstrated that in such circumstances there is an increase in the number of alcoholic psychoses, an increase in the number of psychoses due to syphilis, and an increase in the psychosis of metasyphilitic paresis. Persons with these tendencies are more prone to break down in war time than in the time of peace, and therefore are not fitted to be soldiers. A knowledge of psychiatry would come in good stead to eliminate these unfit from the military standpoint. That an individual with an alcoholic psychosis is not fitted for a soldier's life, at any rate in war time, is self evident, but White shows from the experience gained in the Russo-Japanese war that the syphilitic psychosis is likewise of the first importance. At the Russian Psychiatric Hospital at Harbin, during the war, the percentage of paresis among those brought back from the front was 5.6. Undoubtedly its development was hastened by war conditions and this clearly shows the influence of these conditions upon those who have syphilis.

After discussing temperamental fitness and character the author comes to eugenics and thinks that it would be interesting to construct family charts to see what are the hereditary probabilities in different individuals. Such charts might be considered at the time of admission to the naval academy, and if out of a number of applicants there were in a certain proportion marked hereditary tendencies which might very well come to expression in the particular individual under consideration, perhaps it would be better to put him aside for one with a clearer family record.

In concluding the paper some suggestions were made. In the first place data which are being collected might perhaps present some evidence to a person psychologically trained that they would not present to a person without that training. A psychological analysis of some of the great generals is possible from the literature that exists regarding them. Field work, too, in psychology is possible; and lastly White suggests the readjustment of the service so that men will come into positions of command well before the arteriosclerotic period and the elimination from promotion to higher grades of alcoholics and syphilitics.

Schier, A. R. The Feebleminded from a Military Standpoint; Suggested Examination for Their Early Detection. U. S. naval med. bull. 8: 247–58, April 1914

The author introduces his subject by a discussion of the asocial character of mental defectives and of their consequent inability to adapt themselves to any kind of employment requiring application, judgment or a sense of responsibility. "From a military-naval standpoint this problem is no less important and presents an interesting and fertile field of study for the medical officer. . . . That such individuals can not adapt themselves to military life is certain. Such ideas as duty, obedience, truthfulness, and patriotism are entirely foreign to them. They tire early of instruction and can not adjust themselves to the changed conditions of the service. If left to carry out instructions or called on to think for themselves, their lack of dependability becomes manifest. When brought in contact with normal associates they soon feel their incompetence and become discontented and discouraged, which, added to their lack of stability, leads to desertion from the service. Others may resort to the misuse of alcohol, and while under its influence commit various offenses for which they are punished. Again, others become very irritable and at times develop periods of excitement, and finally definite psychoses.

"From an experience among the military offenders confined at the Naval Disciplinary Barracks at Port Royal, S. C., Passed Assistant Surgeon Mann, U. S. Navy, concludes that from three to ten per cent of the culprits there should be treated solely by alienists. Some one versed in psychiatric diagnosis, he believes, would perhaps materially enlarge this number. Further, that in from ten to thirty per cent the assistance of either the physician or alienist would greatly aid the penologist in his efforts to reform these culprits.

"The diagnosis of this degree of mental defect at the time of enlistment is, needless to say, extremely difficult. Certain it is, that it can not be detected by a casual inspection and a reading and writing test. To meet with any degree of success the examining officer needs a system of examination which will test the various mental functions, especially the power of attention, good sense, judgment, capacity to initiate, and adaptability. On the recognition of such points the diagnosis of a normal mind must rest. Such a scheme of examination should be standardized so that it can be given by different men and yet obtain fairly constant results by eliminating any serious personal equation. With a view of devising such a scheme the writer has been trying many mental tests. . . . As a result of this work a group of tests, believed to be suited for recruiting examinations, was selected and is submitted for further trial. This scheme of examination is not intended to bring out every form of mental defect, but an experience with it so far has shown that it will be a valuable aid in diagnosing the high grade feebleminded, whose deficiency would otherwise be recognized only after weeks of observation at the training stations. . . . The tests are very simple and easily given. It is their simplicity which may cause some to doubt their value, yet each one determines some phase of mental capacity. All applicants to whom they have been applied have been eager to pass them successfully. This is of decided advantage and adds to their value, inasmuch as

they test to the fullest extent an applicant's mental capacity. It is also in favorable contrast to the use of such tests on criminals, who, being wary and suspicious, are inclined to show indifference as to their results. The examination should be conducted in a quiet room to avoid any distraction. The applicant should be urged to do his best and never should any replies be criticized. The family and personal history should be inquired into before beginning with the tests proper. The applicant should be questioned in reference to the number of years and the kind of schools he has attended; whether he has ever been an inmate of a state institution, and what his present and previous occupations have been, so as to learn how frequently he has changed from one kind of work to another. The results of each test are scored."

The author then states the tests, ten in number, in the order in which they are to be given, following the statement with a brief explanation of each test.

It was decided that for the purpose of differentiating the applicant of normal mentality from those unfit for service, seven tests should be successfully passed, and that thus ninety per cent of the feebleminded would be eliminated.

Journal of Amer. med. assoc. 63: 1396–97, Oct. 17, 1914. The Army and Mental Disease (Editorial)

The mental anguish, depicted by the numerous tales of suicide, madness and desertion among soldiers, to say nothing of mental frenzy expressing itself in wanton murder, that have come to us from our ill-fated friends across the sea, leads us to realize that there have been made as yet no scientific studies of the effect of war on the minds of officers and enlisted men in the army. Fortunately for our nation, there has been no opportunity to study the effect, on a large body of men, of short rations, loss of sleep, great emotionalism, exhausting exposure, excessive physical exertion, homesickness, etc., yet these in combination produce a strain that might well prove fatal to the equilibrium of many a mind that in regular routine would show no weakness. To be mentally sound in such conditions is of more importance than to pass the eyesight test, or to be typhoid proof.

In the light of modern psychiatry it is rumored that more than one great battle has been lost by a general who was in the early stage of paresis and doubtless dozens of men who have met the fate of deserters had their doom written in their brains, could their officers have read the signs of dementia praecox. Although the mental effects of war strain have not been studied, our war department has been carrying on, under the surgeon-general's advice, a very interesting inquiry concerning the mental status of the army. The studies show that the mentally diseased, and those who are congenitally or otherwise mentally defective, form an important problem in armies and navies.

Of all the discharges for disease or external causes, practically speaking one-fifth are on account of mental disease in some form. That is to say out of 1,062 men discharged in 1912 on account of disability from all causes, more than 200 were found to be mentally diseased or defective during the year: and these did not include the retirements for neurasthenia or hysteria, which, although the patients are not insane in the accepted sense, are in reality mental diseases that will seriously affect one's efficiency in time of strain.

Of all the mental diseases, it was found that dementia praecox was by far the most frequent form; it averaged about fifty-six per cent each year of all the dismissals. In addition to these, there is no knowing how many cases there might have been among the soldiers who deserted through the year, or were dishonorably discharged on account of "previous convictions by summary court," or who attempted suicide. Many of them, without doubt, had mild or unrecognized cases of dementia praecox.

The report gives a clear, concise outline of the modern conception of dementia praecox, explaining the way in which it may appear in the army in young men who have never shown any of the symptoms of irresponsibility when sheltered

by their parents or friends, but who cannot "get along" when they are required to speak, act, and even think in prescribed and orderly fashion.

The symptoms, with the vivid case descriptions that follow, will afford the regular army surgeon much insight into cases that would seem to be merely undisciplined. In fact, the text of this bulletin will be of tremendous social value to every officer, as well as to any one dealing with large bodies of men whether in reform schools, prisons, factories or mines.

In the same clear, concise manner paranoid mental states are treated, also manic depressive psychoses, general paresis, syphilis of the nervous system, arteriosclerotic mental disturbance, hysterical psychosis and the constitutional psychopathic states.

It is interesting to note that the military prisons frequently turn over men who have been convicted for desertion, assault, murder, theft, who were probably at the time suffering from mental diseases that were not recognized until they became so pronounced that the prisoners had to be sent to the Government Hospital for the Insane.

Even despite the advice of experienced alienists, men are condemned to death by jurors, instructed by lawyers who fail to grasp the significance of these peculiar disturbances in the emotional sphere—delusions, hallucinations and sexual perversities. The pages of this bulletin would be excellent reading for the occupants of the jurors' box in a criminal law court; for what holds true of enlisted men matches up in a pretty fair average to men in general.

Richards, T. W., translator. The Nervous System and Naval Warfare.* U. S. naval med. bull. 8: 576–86, Oct. 1914

We have noticed that from year to year, among the affections observed in the navy, mental and nervous diseases together, exactly those which concern us here, are becoming more and more prominent. Thanks to the more extensive experience acquired, attention is being given to the mild cases which appear insignificant and which were formerly treated with neglect until the day when it was perceived that they became aggravated, to result in general and prolonged disorders and to the great detriment of the individual and of the navy. . . .

"The medical officer who has occasion to observe these cases will quickly discover that two great groups of affections appear with particular frequency, while many others show themselves with surprising rarity, considering so large a field. These two groups are on the one hand, the mental disorders of young men, and on the other the nervous exhaustion (neurasthenia) of those who have served one or more enlistments.

"Reports based on figures from the last great wars show that the number of mental diseases is greater for all combatants, but in particular for the officers. The number of cases increases a little after the outbreak of the war, reaches a maximum when the war attains its full development, and does not fall again until long after it has ended. For the Russian Army during the last war the figures rise to two cases per 1,000 (total of all forces). For the army in the field one notes especially cases of excitement and mental confusion. Individuals placed in a state of lowered resistance by alcoholism, former illness, or hereditary taints were the first to be attacked. If, as we have said, an increase in the number of these cases is a fact signalizing every war, this proves that among all the men assembled many carry the seeds of an affection perhaps already recognizable by the alienist; others have had nervous trouble during their youth which will become aggravated under the influence of fatigue until manifested by symptoms which can be no longer overlooked. Mental maladies are becoming known better and better; and if the number of cases cited in reports is increasing, this

* The original article, entitled "Gesunde Nerven und Seekrieg," appeared anonymously in the *Marine-Rundschau*, v. 21, no. 9.

increase may be accepted with satisfaction as a sign that we understand more clearly how to search for and recognize these affections."

The author then discusses neurasthenia, particularly in its relation to naval warfare. He states that it attacks especially continuous service men, and in most cases makes them unfit for further service. Nearly always the origin of the disability is attributed to unfavorable circumstances in navy life, a fact well recognized by the board charged to decide the question. There is not a single branch of the service which has not been cited as a cause—temperature, lack of ventilation, poor or insufficient food, laborious service in the engineering department, at the guns, on the bridge, or fatiguing mental work. "While we cannot scientifically admit that these factors act as unique and exclusive causes, . . . one understands, nevertheless, that when they exert their action on a nervous system already enfeebled, they aggravate a pre-existing morbid state to the point of rendering the individual unfit for further service." Heredity, family conditions, defective economic conditions, the inability to adapt readily to new conditions, over-zealous ambitions, and finally alcoholism, all play an undeniable role in the development of neurasthenia.

Are there remedies for any of these conditions? Men incapacitated by heredity and psychopathic make-up can be eliminated to a great extent by more exacting examination of recruits. Those who find themselves unable to adapt themselves to the demands of the service should be advised to leave it, for their own good and for the good of the navy. The unfavorable circumstances in navy life, however, can be remedied to a great extent, and these reforms are being carried out, particularly as concerns the men of lower ratings. The officers are still overburdened with responsibilities, anxieties, and long and monotonous duties that require unbroken exhausting activity. It is very desirable that some of the ameliorations affected by hygiene be applied to this situation.

The author summarizes his conclusions as follows:

"The primary requisite for the success of a fleet in a naval war is a healthy personnel so far as concerns the nervous system.

"All possible measures should be taken in the fleet to overcome the damage caused by individuals defective in this respect in view of grave developments, and to assure selection of men in the best of conditions.

"If it appears that, in recent years, there has been a slight increase in diseases of the nervous system this fact need not cause anxiety regarding sanitary conditions. On an average, the crews are in condition to meet any exigency.

"Medical officers must eliminate weaklings from the navy and see that they are replaced as far as possible, by an equal number of sound men.

"There is no peril in the present situation. Diseases of the nervous system are only a menace to an exhausted people who cannot make good their deficits."

Journal of Amer. med. assoc. 64: 163, Jan. 9, 1915. Mental Disturbances in War (Berlin Letter, Dec. 1, 1914)

The Berlin clinician, Professor Bonhöffer, recently delivered a very interesting address on the experiences so far encountered with reference to mental disturbances in the war. He opposed the widely spread public opinion that, on account of the mental and physical demands which the war brings with it, mentally sound men become insane. Still, severe emotional strain is not without effect on the mental condition of the population, sometimes acting with great intensity. One may compare the frame of mind of the population through mobilization with the extravagant ideas which appear in any individual who misinterprets many things. Thus, a spy was brought to the Charité who in full daylight had climbed a wall in order to look at the barracks yard. He proved to be one of the imbeciles well known in the Charité. Another remarkable general phenomenon was the confusion of facts in the memory. Such

positive and negative falsifications of memory show themselves also in the reports from foreign countries. All these disturbances are an acute lack of harmony between the intellect and the emotional side of the mind. In the army itself such a disturbance of mental equilibrium may be observed. Bonhöffer could report on seventy soldiers and officers who had been brought to the nerve clinic of the Charité since the mobilization. More than half of them showed a psycopathic constitution; 16 per cent showed alcoholism in addition to epilepsy, symptomatic psychoses and organic diseases of the brain. Chronic alcoholism with delirium was observed only among the reservists and Landwehr men during the mobilization, induced by the excitement and the hardships of the journey and the prohibition of alcohol on the road. A striking feature is the large number of psychopaths who were thrown out of mental equilibrium either on account of apprehension or a slight wound or the exertions of the war. In times of peace the management of the army lays the greatest stress on excluding these elements from the army. If, in spite of this, the war permits the appearance of such psychopaths in the army, the explanation is in the continued emotional strain, the lack of sleep, etc., which finally bring about a condition in which pathologic phenomena disclose the slight and hitherto latent disposition. Among patients so affected there were only five active soldiers. There is no psychosis peculiar to war. That which was described in the Russo-Japanese War must be designated as a neurasthenic psychosis. Hysteria gives a good prognosis in contrast with traumatic neuroses involving financial interests. Bonhöffer has so far had no experience on which to base an opinion as to whether an increase of mental disease in the army is to be expected from the war. In the English army in the latter part of the campaign against the Boers, such an increase was observed, and also in the Russo-Japanese War. After the war of 1870 there occurred an increase of mental diseases both in the civil population and in the military.

Journal of Amer. med. assoc. 64: 259, Jan. 16, 1915. Nervous Troubles Among Wounded Soldiers (Paris Letter, Dec. 17, 1914)

"My army service has permitted me to visit some of the military hospitals and also to examine a considerable number of convalescents after removal to their regimental stations. An especially striking feature is the frequency of nervous troubles, due most frequently to lesions of the nervous centers or of the peripheral nerve but sometimes of psychic origin. In view of the frequency of these complications, it has been decided to form special services under specialists in nervous diseases.

"Dr. Paul Sollier, of Boulogne-sur-Seine, who has just read a paper before the Académie de médecine on functional paralysis in wounded soldiers, distinguishes four varieties of these paralyses: (1) in emotional subjects, paralysis due to apprehension of the pain caused by moving limbs long kept in an unnatural attitude by apparatus or because of fibromuscular retractions; (2) paralysis due to mental representation (a) of movements with loss of the muscular sense and (b) of attitudes caused by prolonged disuse of the limbs; (3) paralysis due to a fixed idea of incurability, and (4) paralysis due to hysteric contracture.

"Wounds of the nerves of the limbs due to bullets or fragments of shells are frequent, the arms being affected as often as the legs. According to Dr. Henri Claude, who read a paper on this subject before the Société médicale des hôpitaux de Paris, these wounds manifest themselves especially by motor paralyses. The painful forms are rare. Anesthesias are exceptional and particularly characteristic of complete sections of the nerve. What is most frequently observed, even in apparently benign wounds in which the ball merely passes under the skin and heals after a very short period of suppuration, is the sheathing of the nerve in a growth of fibrous tissue which constantly compresses it more closely. The proliferation of this sclerotic tissue causes late paralyses even in

cases in which the projectile does not touch the nerve. In such cases operation to liberate the nerve and to surround it with healthy tissue should be performed almost always as soon as suppuration and acute inflammatory reaction have ceased. Mechanotherapy and electrotherapy are indispensable adjuncts of the surgical cure of such cases. From the diagnostic point of view, it is interesting to note that the abolition of the Achilles tendon reflex and of the knee-jerk are early and trustworthy signs of lesions of the sciatic and crural nerves. Investigation of these reflexes is especially useful in subjects inclined to simulation or exaggeration.

"Dr. Mauclaire has reported to the Société de chirurgie several cases of motor troubles of psychic origin, taking the form either of paralysis or of contracture, in wounded soldiers whose nervous system had been greatly shaken."

U. S. Navy. Report of Surgeon-General. 1914. p. 8–9

During the year of 1913 there was a slight increase in the rate for mental diseases over the previous year. The following table will show the rate for mental disorders since 1910:

1910 rate for mental disorders	5.20
1911 rate for mental disorders	4.25
1912 rate for mental disorders	3.97
1913 rate for mental disorders	4.11

The rate per 1,000 of those invalided from the service for mental disorders during the year 1913 was larger for the Marine Corps than for the navy, the rate for the navy being 1.81 per 1,000 against a rate of 2.33 per 1,000 for the Marine Corps. About ten per cent of those admitted for mental diseases during the year were surveyed from the service within four months of the time of enlistment. A satisfactory method of detecting the mentally weak is receiving careful consideration by the Medical Department. A modification of the Binet-Simon method with suitable mental tests has been devised by Acting Asst. Surg. A. R. Schier, and his article has been published in the *Naval Medical Bulletin* and also has been published in the form of a reprint by the Marine Corps Publicity Bureau. At the same time careful mental examinations have been conducted by Passed Asst. Surg. G. E. Thomas at the naval prison, Portsmouth, N. H., using the Binet-Simon and other methods.

At the disciplinary barracks, Port Royal, S. C., examinations of this character have also been conducted by the medical officer and the material returned has been carefully studied. The subject has also received careful study by the medical officer stationed at the Government Hospital for the Insane with a view to devising, if possible, some mental test which would eliminate those liable to develop mental disorders or to become offenders against naval discipline.

The detection and exclusion of individuals of this class at the recruiting stations would not only greatly reduce the cost at the prisons and hospitals, but serve as an economic aid to other bureaus having to do with the personnel. This bureau is not satisfied that any of the intelligence tests used up to date are sufficiently exact to do any more than approximate the mental status of the individual under examination. It would appear that where the individual is examined by two or more examiners at different times different results are apt to be established, and while the results may not vary greatly, the difference is sufficient to show the unreliability of the test. Furthermore, the application of this test to 300 prisoners and to persons in the prison guard rated as good soldiers affords results which are disconcerting if we are to place any reliance upon the method. For instance, the results obtained from a group of three sergeants, four corporals, and three privates of the marine guard selected as above the average of efficiency show that the average mental age established was below that of the 300 prisoners under their care. In fact, the medical officer making

the examination said that "if the Binet-Simon tests were applied to these men on enlistment and the maximum required, not one of them would have been taken into the service."

Furthermore, some of the prisoners whose records show them to be most undesirable in every way could pass a satisfactory examination by the Binet-Simon method, and would thus have been admitted to the service.

It therefore appears that the intelligence tests applied up to date are not satisfactory in determining the individual's degree of mentality, independent of other considerations.

The problem is one of considerable interest to the bureau because of its economic bearing on the service and the present lack of any satisfactory method of determining the mental status of the applicant for enlistment. Results which would justify a recommendation for the adoption of any system have not yet been accomplished; but the investigation will be continued until the advisability or inadvisability of adopting a mental examination before enlistment is determined.

McMullin, J. J. A. Some Observations on the Examination of Recruits: Defective Minds. U. S. naval med. bull. 9:73–74, Jan. 1915

"During the spring of 1912, while temporarily attached to the naval prison, Portsmouth, N. H., I applied a modification of the Binet test to some of the prisoners, and was surprised to find that the majority of those examined seemed to be defective." Many of these might have been excluded from the service if appropriate tests had been applied at the recruiting station.

"Only the grossest types of insanity can be discovered during a short examination conducted by one untrained in psychiatry." Sometimes alienists find it necessary to study certain cases some months before giving an opinion. Hence tests based on the Binet method can only help to solve the problem of ridding the navy of undesirables. But an incomplete examination is better than none, and it is too much to expect any test to be unfailing in results.

The writer then describes briefly the test applied to applicants at Portsmouth.

Journal of Amer. med. assoc. 64: 678–79, Feb. 20, 1915. Nervous and Mental Disease (Berlin Letter, Jan. 19, 1915)

The Berlin psychiatrist, Albert Moll, recently reported on the results of a tour for psychiatric study through the western theater of war, the hospitals of Northern France and Belgium. Altogether relatively few insane were found, while nervous disturbances appeared somewhat more frequently. Cases of imbecility were only rarely observed. The reason for this is, first, the better education in psychiatry of military surgeons, who immediately reject such patients, and second, the fact that the registers of the subsidiary schools for feeble-minded and those of the insane asylums have been made accessible to the recruiting boards. A few cases of primary alcoholic insanity have been received in the special wards of the hospitals. Moll saw during his trip only two drunken soldiers. He holds the provision that complete abstinence be not required during the campaign to be fully justified, but regards it as desirable that presents of alcohol to the soldiers should be distributed by their superiors. In view of the sanitary conditions in France and Belgium and of the composition of the water that is available, the addition of wine to the water is required. In Liege, where a nervous department has been established in the hospital, only nineteen patients had been admitted up to the middle of November. Among these were three epileptics, three cases of anxiety neurosis and six of alcohol psychosis. This is a small number considering the large number of soldiers who are stationed in that neighborhood or pass through it. In Brussels, 120 patients were treated

in the department, of whom, however, a great number were affected with organic nervous diseases, such as shot wounds of the nerves or cases of apoplexy, and also five cases of primary alcoholic insanity, thirteen of paralysis, seventeen of epilepsy and seventeen of hysteria. In a large army hospital in the neighborhood of Argonne that received a very large number of soldiers, only ten or twelve cases of insanity were observed by a psychiatrist who had seen all the patients. Cases of exhaustion psychosis have been observed, as they were in the Russo-Japanese War. Moll, however, would include these with hysteria rather than genuine insanity. Diagnosis is difficult in the field where any sort of history is lacking, and also it is difficult to decide where the treatment of cases of insanity can best be carried on. Transportation home is best secured in separate departments of the hospital train which are provided with specially trained nurses.

Med. rec. 87: 316, Feb. 20, 1915. Nervous System in Naval Warfare (Editorial)

War as it is now waged on sea or land obviously must place a great strain upon the nervous system. The most modern weapons of destruction, including immense guns, explosive shells, aerial arrows, and the various types of flying machines, have rendered war more trying by far to the nerves of the combatants than was formerly the case. But if fighting on land is more nerve racking than of yore, battles on the sea are yet better calculated to shatter the nerves of the participants. The tension produced by waiting for and dreading an attack, in these days of submarines and airships, cannot but tend to bring about certain mental affections in some. In the *United States Naval Medical Bulletin* of October, 1914, is a paper which first appeared anonymously in the *Marine-Rundschau* XXI No. 5, translated into French by Marcaudier for the *Archives de Médecine et de Pharmacie Navales*, April, 1914, and translated into English by Dr. I. W. Richards, Surgeon U. S. N.

Among other statements made in this paper is the following: "Reports based on figures from the last great wars show that the number of mental diseases is greater for all combatants, but in particular for the officers. The number of cases increases a little after the outbreak of war, reaches a maximum when the war attains its full development, and does not fall again until long after it has ended. For the Russian army during the last war the figures rose to 2 per 1,000. For the army in the field one notes especially cases of excitement and mental confusion. Individuals placed in a state of lowered resistance by alcoholism, former illness, or hereditary traits were the first to be attacked. If, as has been said, an increase in the number of these cases is a fact signalizing every war, this proves that among all the men assembled many carry the seeds of an affection perhaps already recognizable by an alienist; others have had nervous trouble during their youth which will become aggravated under the influence of fatigue until manifested by symptoms which can no longer be overlooked. Mental maladies are becoming better and better known, and if the number of cases cited in reports is increasing, this increase may be accepted with satisfaction as a sign that we understand more clearly how to search for and recognize these affections."

The paper is summarized thus. The primary requisite for the success of a fleet in a naval war is a healthy personnel, so far as the nervous system is concerned. All possible measures should be taken, therefore, in the fleet to overcome the damage caused by individuals defective in this respect, in view of grave developments and to assure the selection of men in the best condition. If it appears that in recent years there has been a slight increase in diseases of the nervous system this fact need not cause any anxiety regarding sanitary conditions. On an average the crews are in a condition to meet every exigency. Medical officers must eliminate the weaklings from the navy and see that they

are replaced as far as possible by an equal number of sound men. There is no peril in the present situation. Diseases of the nervous system are only a menace to an exhausted people who cannot make good their deficits.

The moral to be drawn from this valuable paper would seem to be that the examination of the would-be naval fighters should be of an especially searching character. In particular, should those who exhibit symptoms of an unstable nervous system be subjected to severe tests. For this purpose, the services of alienists would have to be called in, but when the absolute necessity, under modern conditions of naval warfare, for having sailors sound in mind and body is considered, there is little doubt that such a course should be followed. The modern naval seaman must have no physical or mental defects, and the only means of insuring this as far as possible is by a particularly rigid examination.

Journal of Amer. med. assoc. 64: 1340–41, April 17, 1915. Nervous Troubles Among the Wounded (Paris Letter, March 25, 1915)

The Société de neurologie de Paris has sent the minister of war a letter calling attention to the fact that men affected with nervous troubles are ordinarily sent to the special neurologic services too late. To take examples from among the most common wounds of war, in cases of lesions of the nerves by balls or fragments of shell, which are very numerous, it is essential that the possibility of operation and its character should be determined as soon as possible. This is a point which cannot be decided without a very minute neurologic examination, requiring not only particular training but also the use of instruments with which most ambulances are not provided. Among the greater number of patients affected with traumatic neuritis and sent to the neurologic services long after the onset of the symptoms, fibrotendinous retractions and subankyloses have developed and persisted in spite of treatment and in some cases have been incurable. Especially to be deprecated is the prolonged sojourn in unsuitable environments of patients affected with hysteric troubles—hystero-traumatism, traumatic neuroses and troubles due to suggestion. Then there are also the simulators who can be best distinguished by a neurologist. Observation shows that hysteric disorders disappear very rapidly when they are properly diagnosed and treated by psychotherapy and countersuggestion at their inception. They may, on the other hand, be very refractory to treatment when, having been wrongly diagnosed at first they have been fostered by the sympathy of companions, etc. There is no exaggeration in saying that there are now in the ambulances and military hospitals thousands of men of this class who, if properly treated, should have been able to return to their posts of duty long since.

Therefore the Société de neurologie de Paris believes that all patients who are or appear to be affected with nervous troubles, organic or non-organic, ought to be sent, as soon as possible, to the neurologic services. Moreover, for those patients whose abnormal condition persists in spite of treatment and in whom exaggeration or simulation may be suspected, special services for medical oversight and discipline should be organized.

Med. rec. 87: 527, March 27, 1915. War Psychoses (Editorial Note)

Much has been written on this subject since the outbreak of the present war, but after all nothing has been unearthed in this relation which has not always obtained in connection with warfare and other catastrophes, like earthquakes. At a recent (January 2) session of the military medical evenings of the Fifth Army (*Münchener medizinische Wochenschrift*, February 9), Singer spoke as follows: "Nearly all soldiers who 'become insane' in wartime are already mentally ill when enrolled. Psychopaths, hystericals—even manic-depressives—get into the ranks. Certain elements work on the psyche at a later date—enthusiasm, rumors, spy fear, etc. The hardships of war cause in psychopathic

personalities depressions, neurasthenia, amentia, acute hallucinations. The prognosis here is good. With certain predisposition, shell fire will call forth a fright psychosis. Abstinence from alcohol exerts a favorable influence over war psychoses, and conversely small doses of alcohol in warfare act in excess and cause delirium, convulsions, etc." In discussion Weyert emphasized the fact that in warfare neurasthenics suffer especially from homesickness. Contrariwise the effects of war on some of the subjects have been pronounced salutary by the same author. Von Hecker believes that warfare accelerates the course of paresis.

Jenkins, H. E. Mental Defectives at Naval Disciplinary Barracks, Port Royal, S. C. U. S. naval med. bull. 9: 211–21, April 1915

After commenting upon the increasing number of the feebleminded, measures for prevention, causes, grades, etc., of mental deficiency, Dr. Jenkins says: "After being on duty for twenty months at the naval disciplinary barracks, Port Royal, S. C., the writer decided to make an investigation of the men confined there to ascertain the number of mental defectives. For this purpose a modification of the Binet scale as proposed by A. R. Schier, Acting Assistant Surgeon, U. S. Navy, was used." Out of 100 examined, seven were found to be unfit. Interesting data upon the relation of education to unfitness were collected. Those who failed in the tests, it was found, had attended school, on an average, only five years.

The tests are described and tables of results given.

Schier, A. R. Review and Possibilities of Mental Tests in the Examination of Applicants for Enlistment. Reprint from U. S. naval med. bull. 9: 222–26, April 1915

A brief review of some of the results with mental tests at the Marine Corps recruiting station, St. Paul, Minn., and suggestions of possibilities indicated by their use.

The writer states that a year's application of the tests described by him in his previous article, "The Feebleminded from a Military Standpoint," has demonstrated no need of change in the tests themselves. "The range of mentality measured by them is sufficient for the purpose for which they are intended, namely, the detection of the so-called moron. . . . By far the large majority of morons fail to score a passing mark with these tests, yet some will pass all of them. It is unreasonable to expect any series of tests to reveal every form of mental defect, or to detect every type of offender or criminal."

A modification in the method of scoring in these tests was found necessary; that is, each test was given a relative value according to its difficulty, instead of the equal rating, that was originally used, thus relating the method to the Yerkes-Bridges point scale.

"One hundred consecutive physically qualified applicants were examined with these tests and marked in accordance with the point scale. . . . Reports on the intelligence, aptitude for the service and behavior of many were received from the recruit depot, subsequent to enlistment." Here tables showing a classification into four groups according to degree of mental ability, and of mental ratings and other data of interest gathered both before and after enlistment are introduced. "It will be seen from a comparative study of these tables, that the mental ratings given after a period of observation at the recruit depot in the main correspond with the degree of mental ability found at the recruiting station, as indicated by the number of points scored. This may be regarded as evidence of the accuracy of the tests to determine the grade of intelligence."

The four groups into which the writer divides his 100 applicants, as a result of the tests and further observations are as follows:

A	Well above to average	Safe and dependable
B	Above to average	
C	Average to doubtful	
D	Mentally deficient—subnormal or feebleminded	

"This classification . . . based as it is on only 100 applicants, would undoubtedly be materially changed if larger numbers were examined. However, it points out a line of research which it might be well to undertake."

The author draws the following conclusions:

"The continued examination of applicants for enlistment with the series of mental tests . . . has demonstrated the usefulness of these tests in detecting feeblemindedness.

"Only in so far as habitual offense, unmorality, and criminality are the result of feeblemindedness, are such tests of diagnostic value.

"The method of scoring first used has been modified by working out a point scale, based on the relative difficulty of each test.

"On the basis of points scored, and conduct and efficiency after enlistment, men may be classified into safe and dependable, doubtful, and mentally deficient groups.

"A classification according to mentality could be established only after large numbers of men had been listed and their conduct subsequent to enlistment noted.

"Investigation looking toward the establishment of such a classification, it is believed, would be of value, inasmuch as it would eliminate many hitherto unrecognized mental defectives from the service."

Sheehan, R. Service Use of Intelligence Tests. U. S. naval med. bull. 9:194–200, April 1915. References

The author describes the Binet tests and comments as follows upon their unfitness for service use. "Stuart states that there is a likelihood of wide discrepancies in the use of these tests when made by different observers. They should not be considered an instrument of precision and will probably never become exact, and Healy . . . says: 'In considering the scientific exactness of results we must remember that there are many delicate possibilities of variation ever present. These may occur through the many varying conditions of the investigator, the one investigated, and the medium of investigation.'"

Since great variance in results is noted with trained workers, as used by untrained examiners these tests are almost valueless. Goddard says: "The attitude of the examiner is all-important." Healy states: "It is very clear that judgment by means of tests as to the possible existence of those abnormal states which constitute insanity is often a matter for those with a highly technical training and experience."

These tests are only indicative and of value when estimated with other considerations. "The Binet system, with its rather cut and dried standards, is useful mainly as an exploratory procedure." Binet himself never intended to measure with the scale general ability apart from schooling.

The high-grade defectives, who are the only ones that come to the attention of the service, evidently need other methods of examination.

"There is little doubt that the best criterion of the adaptability of a candidate for enlistment would be a cross section of his career. However, when he presents himself he is governed by the desire to enter the service, and naturally it is not to be expected that much information will be obtained from him gratuitously which will assist in his exclusion. . . . Here, then, is where the necessity arises for some measure that will appraise him independently of his volition. . . ."

Another criticism that can be made of the Binet system is that it is standardized for children and depends in great measure upon education, so as applied to

adults it is useful only as part of an examination. Both Goddard and Kuhlmann have asserted lack of faith in their own revisions of the tests for this class.

As they are essentially tests of the intelligence, they fail to reveal emotional deficiency, which is not evident in mental characteristics. The tests of Healy and Fernald, and the association tests, supply to an extent this lack.

Glueck states that a great deal of justifiable criticism of these tests has been directed against an attempt on the part of some of Binet's followers to supplant entirely the social definition of feeblemindedness by the artificial one made by the test.

Among military prisoners the moron is not found frequently—less than ten in 400 examinations. Epileptics are probably more numerous. Chronic alcoholism, frequently existing previous to enlistment, accounts for many offenders. Habitual drunkenness in psychopathic individuals causes much delinquency. They lack moral sense, judgment and stamina, and the ability to adapt.

It seems that the large majority of service patients in the Government Hospital for the Insane would have, at the time of their enlistment, survived the intelligence tests. Over fifty-six per cent are cases of dementia praecox, patients who are oftentimes especially bright school children with plenty of knowledge for passing the tests. Since April 1, 1914, careful examination of navy admissions has shown only three feebleminded patients and in only one of these was this the probable cause of admission.

Are we justified in taking twenty-five minutes of the medical officer's time to use a measure that detects only a small part of the undesirables?

To remedy in part these defects in the tests, Surgeon Sheehan suggests a period of probation at the training station for observation and further testing, a procedure which would enable examiners to become skilled in the work, and which would give opportunity for "more than one sitting, which is usually necessary except for testing the clearly feebleminded. It is said that the most serious objection to the time limit comes from the fact that it makes the whole test a stereotyped, rigid, mathematical procedure, which, in the last analysis, reduces the whole method to an absurdity.

"Another point not to be forgotten is the difficulty in devising tests suitable to our purpose, when we have to apply to what is really a cosmopolitan class a measure originally designed for use with a homogeneous people.

"To date it has not been found that any set of mental tests exists which is at all adequate to estimate the capabilities, and these are what we wish to estimate. The modification suggested by Dr. Schier seems to be a move in the right direction, and perhaps with standardization may be useful as a routine measure at the training stations. It should be applied to at least 500 sailors and marines, selecting those who by their actual acts have proven not only that they are intellectually capable, but that they are of sufficient emotional stability to adjust themselves to all conditions of service life. For our purpose, these would constitute normal men. Then compare the results of a similar examination of men who have shown by their actual acts that they are incapable of doing their duty or adapting themselves to these conditions. . . .

"It might be of value to consider requiring a candidate for enlistment to bring with him some evidence that would enable the recruiting officer to judge his history better. This would approximate what some foreign services obtain by their perfected statistics and records."

Thomas, G. E. Value of the Mental Test and its Relation to the Service. U. S. naval med. bull. 9: 200–11, April 1915. References

"For the last year and a half much work has been done at the Portsmouth naval prison with the Binet scale for the purpose of determining the mental standard of prisoners. When comparisons were made after several hundred

tests had been completed, the idea of the value of this scale in its application to recruiting was advanced. There has been much discussion by psychologists outside the navy and by some of the medical officers in the service, of the value of the Binet system as a means to determine the mentality of the recruit. Kuhlmann has suggested it as being valuable in this relation. Acting Assistant Surgeon Schier has devised a test using some of the Binet procedures. Passed Assistant Surgeon McMullin also has been experimenting with a simple system in connection with recruiting. If a mental test is to be applied in the navy, it should be devised for the recruiting officer and should answer the following requirements:

1. It should be fair in its requirements, and a definite minimum passing mark established.
2. It should be sufficiently varied to make evident intelligence, education and training.
3. It should be so devised that but slight, if any, variations are possible in the results of the different examiners.
4. It should not consume much time."

The author then describes results, with tables and illustrative cases, of applying the Binet-Simon and Schier tests, followed by a comparison of the two as to accuracy and relative value. "The results obtained by each system are fairly consistent. The most intelligent who passed the maximum 'Schier' also passed the maximum 'Binet,' and as the average is decreased on the Schier scale it also decreases on the Binet scale until seventy per cent is reached, when some discrepancies creep in." The chief disadvantage of the Binet test is that its results can vary quite widely according to the examiner. On the Binet scale the inaccuracy of the groups over the ten-year grade would make the establishment of a definite minimum, which at the same time is fair in its requirements, impossible.

The Schier test, on the other hand, allows little chance for variations, there being but one well-defined test with a definite minimum.

The Schier test, therefore, more closely fulfills all of the qualifications requisite for use in the navy. It is believed that it is fair and varied enough to determine intelligence, education and training; that its results by different examiners vary but little, if any; that it can be applied by any intelligent person after a little training; and that it consumes not too much time to make it objectionable.

Osler, William. Functional Nervous Disorders. J. of Amer. med. assoc. 64: 2001–02, June 12, 1915

"Types rarely seen in males in this country or in the United States are very common, and an explanation is to be found in the extraordinary stress and strain of trench fighting."

Shell-Shock Paraplegia.—Causes lack of consciousness or a dazed condition lasting for several hours, with a paraplegia lasting often for weeks and gradually disappearing. Reflexes are increased, sometimes there are hypertonus of the muscles, hyperesthesia, and difficulty with bladder and bowels.

Psychic "Knock-Out."—Due to shell shock. The victim remains in a state of stupor, with loss of memory and speechlessness or stammering, recovery following in a few days. A condition of irritability often persists for weeks.

Involvement of the Special Senses.—Very common. Accompanying conditions are headache, tic, constant blepharospasm, photophobia, monocular amblyopia.

Functional Dysbasia.—All sorts of anomalous gaits are encountered. Case described.

Functional Spasm of Leg Muscles.—Cases given. Treatment by massage and electricity. The use of tobacco has a deleterious effect upon recovery.

The rest of the article is devoted to a discussion of the effects of gas poisoning.

Journal of Amer. med. assoc. 65: 2102, Dec. 11, 1915. Nervous Affections Caused by Bursting of Shells in the Patient's Vicinity (Paris Letter, Nov. 18, 1915)

At a recent session of the Réunion médico-chirurgicale de la X-e armée, Drs. Gustave Roussy and J. Boisseau read interesting papers on this subject, based on sixty-seven cases of nervous affections provoked by bombardment. The conditions in which these disturbances occur are always the same—bursting of a shell of large caliber near by, killing or wounding neighboring comrades, more or less prolonged loss of consciousness, followed by an outbreak of nervous disturbances. The latter may be grouped in three classes:

1. Disturbances of hearing and speech (deafness, loss of speech, deafmutism, stammering). The patients sometimes present an expression of terror and mental confusion, sometimes an impassive and stupefied countenance, sometimes an expressive mimicry, gesticulating, pointing to their ears, demanding to write.

2. Various nervous complications, such as trembling, convulsive crises, astasia, paraplegia, etc.

3. Mental disturbances such as confusion with stupor and delirious ideas.

Somatic signs sometimes observed are a very slight and temporary elevation of temperature with often persistent headache. In eleven out of sixteen cases of deafness, examination revealed the presence of small lesions, generally old, sometimes recent. In seventeen out of nineteen cases examination of the cerebrospinal fluid gave negative results (generally the fluid trickled drop by drop; there was no hyperalbuminosis or lymphocytosis); in two cases there were positive results (slight hyperalbuminosis in one, slight lymphocytosis in the other). The two patients presented mental confusion and the second had albuminuria.

Cure always followed the treatment, immediately (that is, within a day) or tardily (within two or three days in the intense forms).

The complications presented in the sixty-seven cases could all be classified as functional or hysterotraumatic. There are no signs which give reason to suspect a disturbance of the central nervous system, no reflex trouble, no chemical or cytologic modification of the cerebrospinal fluid. All the symptoms disappeared very rapidly under suggestion. The ease and rapidity of cure of these patients treated at a date very near the onset of the condition contrasts singularly with the slowness and even the failures observed in the zone of the interior. There would appear to be considerable practical value in early treatment from the military point of view.

Journal of Amer. med. assoc. 65: 2180–81, Dec. 18, 1915. Nervous Symptoms in Wounded Patients (Paris Letter, Nov. 25, 1915)

The Société de neurologie de Paris recently held two extraordinary sessions, under the presidency of Prof. Gilbert Ballet, to study the methods of clinical examination and the course to be pursued in cases in which exaggeration or simulation of certain nervous symptoms is suspected in wounded patients. The medical service had convoked the heads of all the military neurologic centers to take part in these sessions. Such a meeting had been much desired by French neurologists who for a year had to treat wounded patients with nervous symptoms. The opportunity to exchange scientific and practical opinions on the subject created much interest. At the end of the session, the society passed the following resolutions, which were transmitted to the medical service:

1. In each of the armies, neurologic and psychiatric centers, such as already exist in several of them, should be formed. In such centers all patients affected with nervous and mental conditions and all those suspected of simulation or exaggeration should be examined. The purpose should be, on the one hand,

to recognize, before they are removed to the special centers of the interior, the patients affected with lasting organic lesions, and on the other hand to avoid the removal to the rear of patients suspected of simulation and exaggeration or affected with nonorganic conditions, which can be recognized, treated and cured very rapidly in the zones of the armies, as appears from results already obtained in existing centers (The Journal, Dec. 11, 1915, p. 2102).

2. Soldiers suspected of simulation or exaggeration or of voluntarily prolonging their nervous troubles should be sent to special services where they can be under competent medical oversight and severe military discipline at the same time. Experience has shown the value of such measures in certain neurologic centers where they have been applied. It would be desirable that such special services be attached to the military neurologic centers already existing, if the heads of these centers are able to operate them.

3. The opinions of the physicians of the neurologic centers with regard to a soldier dismissed by them should be taken into account wherever the soldier may go.

4. Under no circumstances, at present, should soldiers affected with psychoneuroses be sent for discharge to the committees that arrange discharges.

5. In view of the great number of diagnostic errors in cases of wounded men with nervous symptoms, it would be desirable that in each region, or group of regions, neurologic experts should regularly visit all hospitals and other places where patients are under treatment. These experts should make notes on each neurologic case for the information of the committees that arrange discharges and to enable the attending physicians to form an opinion of the propriety of sending the soldiers back to service or to one of the neurologic centers.

6. In view of the delicate scientific and practical problems which daily present themselves with regard to soldiers in neurologic hospitals, it would be desirable that the heads of the neurologic centers should have the opportunity to meet from time to time in order to co-ordinate their efforts to render the course of action uniform.

M. Justin Godart, under-secretary of the military medical service, informed the Société de neurologie de Paris that he was forwarding to the director-general of the medical service of the armies, with his approval, the resolutions passed by the society. Experience has shown, he said, the justification for forming neurologic psychiatric centers in each of the armies. So far as the second resolution is concerned, it would be simple to form, instead of special services, departments annexed to the neurologic centers operating under competent medical direction and with a more severe discipline. Resolutions 3, 4 and 5 have his unqualified approval. As for Resolution 6, M. Godart is ready to approve the meetings requested provided they are not too frequent.

Smith, Lloyd L. Syphilis as a Cause of Mental Disease in the Military Service. Mil. surg. 37: 447–58, 561–73, Nov. and Dec. 1915. References

"The frequency of syphilis in the military service and the part it plays in affecting its efficiency is well known to military surgeons. Keogh states that there is no disease, with the possible exception of malaria, that has so important an influence on the efficiency of an army or a navy as syphilis."

After describing a few cases of soldiers suffering from syphilis, Smith says: "It is interesting, in looking over the records of the Government Hospital for the Insane, to find that among insane persons admitted to the army during the Civil War period, there were diagnoses made in 12 cases which were highly suggestive of paresis. Eight of these cases were diagnosed chronic paralytic dementia, 2 as chronic paralytic mania, one as general paralysis and one as acute paralytic mania. These patients were all in the paretic age, the average age on admission being 39 years. Ten of these patients died within 2 or 3 years after

admission and 2 were discharged from the hospital as improved. There was one patient discharged as recovered from paralytic dementia who is not included in this series of cases. Of course there is no absolute certainty that all of these cases were cases of paresis, but it is highly probable that they were. They are among the earliest cases of general paralysis of which there is any record at this hospital. Among the insane Civil War veterans admitted to this hospital during the past 10 years there have been 11 cases of paresis reported. The average age on admission was 61.4 years. The only thing that is noteworthy in this series is the advanced age at which the paresis developed. During the past 10 years there have been 7 former soldiers of Spanish-American war service admitted, in which the diagnosis of paresis has been made. From the United States Soldiers' Home, during the same period, there were admitted 4 former soldiers suffering from paresis. Two of these soldiers were suffering from tabo-paralysis. Both of these latter patients had been discharged from the Army on account of locomotor ataxia, one 8 years and the other 6 years before admission to the Government Hospital for the Insane. It is noteworthy that one of these cases of tabo-paralysis occurred in a former colored soldier, as tabes is regarded by some as a rare condition in the colored race.

"During the period from July 1, 1901, to July 1, 1911, there were admitted to the hospital 50 insane persons who were suffering from paresis; 5 of these were officers. Among the white soldiers there were 9 non-commissioned officers on the active list, 3 retired non-commissioned officers and 25 privates. Among the colored soldiers there was one non-commissioned officer on the active list and one retired non-commissioned officer and 6 privates. There were, therefore, 37 white soldiers and 8 colored soldiers, a total of 45. Thirty-one per cent of this number were therefore non-commissioned officers. From the period from July 1, 1910, to July 1, 1911, there were admitted 8 cases of paresis among a total of 46 insane soldiers. Paresis, therefore, during this period represents 17.3 per cent of admission from the army. There were also 4 cases of cerebral lues admitted during the same period, or 8.6 per cent. Hence syphilis was responsible for about 26 per cent of the insanity among soldiers admitted here during the past year. This percentage is probably higher than it has been in former years, owing to the fact that at the present time not all of the insane soldiers are sent to this institution, but a certain number whose insanity became manifest shortly after enlistment, and whose disability is obviously not in the line of duty, are turned over to their relatives or to the authorities of the locality from which they came. The percentage may also be influenced by the more exact diagnoses that are now being made due to application of modern laboratory methods. Among these 46 insane soldiers there were 4 whose blood serum reacted positively to the Wassermann reaction and who were suffering from psychoses, in the production of which lues was believed to have had little or no influence. One was a case of amentia; the spinal fluid was negative; the patient was discharged as recovered. One non-commissioned officer is suffering from what is believed to be arteriosclerotic dementia, but it may later prove to be a vascular form of cerebral lues; the spinal fluid is negative. The third case was diagnosed as alcoholic psychosis; the spinal fluid is negative; the soldier has been discharged. The fourth case is one of dementia praecox and the patient remains in the hospital."

Summaries of the histories of 8 soldiers suffering from paresis are given. "There is nothing remarkable about these cases except that the histories would indicate that a certain number of them at least offered some difficulty in making an early diagnosis, and that derelictions of duty were among the first indications of their abnormal mental condition. . . The average age of the 8 cases . . . was 35.2 years; 2 of them were 26 years of age on admission; 3 of them, or 37.5 per cent, were non-commissioned officers."

Mourilyan, in writing on syphilis in the Royal British Navy, states that the disease enters largely into statistics of insanity in the navy. "About three-

fifths of the total number of cases of insanity received in the Royal Naval Asylum at Yarmouth, England, have been patients affected with dementia paralytica, and this does not represent the total amount of insanity in the service, as many cases are sent to other asylums or to the care of their friends. He also states that, considering the comparatively large number of men finally discharged from the navy every year on account of nervous affections, it may be confidently assumed that in many cases the cause of such was syphilis. . . . An examination of the medical history sheets of 50 men who have been finally discharged on account of epilepsy showed a clear history of syphilis in 12 cases."

Journal of Amer. med. assoc. 66: 440–41, Feb. 5, 1916. Hypnotism in War Hysteria (Berlin Letter, Dec. 14, 1915)

Professor Nonne recently delivered an interesting lecture before the Hamburg Medical Society on the value of hypnotism in the treatment of so-called war hysteria, a condition which, in his experience, is extremely common among the participants as well as among the injured. Under this head Nonne places the motor and sensory nerve disturbances that are so frequently combined with vasomotor symptoms, with or without mental disturbance. Cases of tic, stubborn tremor and severe and stubborn vasomotor disturbances Nonne regards as being functional and not organic or suborganic. The truth of this belief is confirmed by the good results obtained from hypnotic suggestion in the treatment of these conditions. The causation of this hysteria may therefore be mechanical or pathologic or idiopathic, although the etiologic factors are frequently combined. Nonne does not believe it justifiable to place in a separate classification cases of cramp neuroses, akinesia, dyskinesia amnestica, vasomotor syndrome, and fear and fright neuroses, and he warns against the use of a terminology which apparently indicates an unfavorable prognosis (traumatic neuroses). The war has shown that the conception that hysteria is merely a form of degeneration, as well as the Freudian theory, are based on wrong premises. Nonne has based his statements on experiences gained in his capacity of consultant in the reserve hospitals of Schleswig-Holstein and various hospitals of Hamburg. Among 1,800 cases of war injuries there were twenty-six cases of pure neuroses agreeing with the statistics of Biss, Horn and others as to the frequency of traumatic neuroses. Nonne cites cases of hysterical paralyses which were diagnosed as (1) plexus paralysis; (2) cerebral paralysis; (3) spinal paralysis; (4) organic cerebral lesions; (5) ischemic paralysis; (6) arthritis deformans, and (7) inflammation of serous membranes. These wrong diagnoses were in many cases accepted in the various hospitals of which patients were inmates. It is said that the reason for these wrong diagnoses was the fact that the classical Charcot hysteria is not sufficiently well known, and because these cases are not common in the general practice of a physician during times of peace. The diagnosis of classical cases is easily made because of the characteristic symptomatology. The experiences gained in the war have confirmed this statement. Restriction of the field of vision is frequently, although not always, present; sensory disturbances occur less often, and anomalies of mucous membrane reflexes occur very irregularly. The hysterical character is usually not present, but vasomotor disturbances occur with astonished frequency; likewise isolated muscle contractions. Nonne demonstrated cases of isolated contractures of muscles in the peroneal group, and isolated contractures of the elbow joint, the flexor muscles of the thumb and the interossei. In more than half of the cases the neuropathic tendency is missed even when the most careful anamnesis is made. It is impossible to differentiate on the basis of complete absence, or preceding loss, of consciousness. Experience has shown that a somatic trauma alone, aside from a psychogenic cause, may produce the hysterical syndrome. By far the most frequent traumas concerned in the etiology of this condition are, in the order named, shell contusions, wounds, fatigue and fear; finally, there are cases, by

no means infrequent, in which a particular exciting cause cannot be demonstrated. We have learned that the hysterical syndrome may, under unusual conditions, occur much more easily in a so-called normal nervous system than has heretofore been believed to be the case, and it is in these cases that Nonne has found the prognosis to be very much better under hypnotic treatment. From the middle of October, 1914, to the middle of September, 1915, Nonne treated sixty-three cases of "grand hysteria." Fifty-one of these patients were cured, including twenty-eight "rapid cures" and twenty-three cases in which the cure was effected more gradually. By means of waking suggestions, Nonne succeeded in curing five patients after previous attempts had failed. In three cases a cure was effected on the day following the hypnotic suggestion (suggestion *à échéance*). In one case dyskinesia amnestica remained unaffected even under deep hypnosis. Twelve patients could not be cured; ten of these were refractory against hypnosis. Only two became fully hypnotic. A cure was effected in those cases only in which the hysterical syndrome was acute. In those cases in which the development of the condition extended over days or weeks, a cure was effected correspondingly slowly. The duration of the hysterical syndrome and a neuropathic tendency on the part of the patient did not alter the prognosis. A cure was affected, even "rapid cures," in cases of from two to thirteen months' duration. Some of these patients were refractory to the treatment because of a desire not to return to active duty. Nonne cited five cases of stubborn generalized muscle tremor that yielded promptly to hypnotic suggestion. He shows that hypnosis is entirely independent of neuropathic tendencies, general exhaustion and the consequent reduction of resistance, nor did he find any difference in producing hypnosis among people coming from different parts of Germany, from the city or country, or in various walks of life. He frequently saw cases in which the subject yielded easily to hypnotic suggestion. Nonne says that in such cases it is advisable to give the suggestion to the patient that others do not possess the same hypnotic influence over him. Nonne cited four cases of this kind. As to recurrence, Nonne admits that many of these cured patients will have recurrence if they are subjected to the influence which produced the original attack. That the ordinary garrison duty or field service does not play any part in the production of recurrence was shown by six cases cited. Nonne calls attention to the advantages of hypnotic suggestion: 1. Cures are frequent and rapid. Nonne's patients had all been treated ineffectively for many months in various hospitals. 2. Hypnosis may be regarded as a means of differentiation between "organic" and "functional" cases. Nonne cites the case of an officer who received a grazing bullet wound of the left parietal region and developed a right-sided superior monoparesis with glovelike areas of disturbance of sensation of all kinds of hands and fingers, but normal tendon and periosteum reflexes and absence of hemiparalysis. In the hypnotic state sensation was normal, and after several treatments the patient was cured. 3. Cases of stubborn tremors and tics of long duration as well as severe vasomotor disturbances were promptly healed by suggestion, showing that these symptoms must have been purely functional. 4. Hypnosis would be of great value in determining the disability of the individual, the degree as well as the duration, so that he can be returned to duty if he is fit for duty. Nonne recognizes that difficulties lie in the way of the adoption of this procedure, particularly as time and patience are required, and the hypnotizer becomes fatigued rapidly and much more severely than does the hydrotherapist or the electrotherapist; nor can he rely on assistants.

King, Edgar. The Military Delinquent. Mil. surg. 37: 574–78, Dec. 1915

"During the fiscal years 1908–1913 inclusive, the total number of enlistment contracts in force, according to figures obtained from the Adjutant General of

the Army, was about 250,704. Of this number not less than 30,000 were terminated by the soldier becoming a military delinquent. This is twelve per cent of the total. A very large percentage of these men deserted the service, the number of desertions reported during the period under consideration being slightly in excess of 23,000."

Capt. King made a study of 1,000 general prisoners as to causes of their delinquency. Results are given in the following table:

Cause	Number	Percentage
Dementia praecox (1)	25	2.5
Manic depressive psychosis	1	0.1
Cerebral syphilis	4	0.4
Epilepsy (2)	16	1.6
Morons	13	1.3
Drug habit	10	1.0
Psychopathic constitution	200	20.0
Constitutionally inferior	70	7.0
Acute alcoholism	70	7.0
Habitual drunkenness (3) existing prior to enlistment	170	17.0
Chronic alcoholics (3)	40	4.0
Periodical alcoholics	15	1.5
Youth (usually in association with other factors)	80	8.0
Relatives	30	3.0
Women	30	3.0
Miscellaneous	226	22.6
Total	1,000	100.0

(1) In 7 cases diagnosis not absolute but entirely probable.
(2) In 7 cases diagnosis not absolute but entirely probable.
(3) In over 90 per cent, condition existed prior to enlistment.

Captain King makes the following suggestions for reducing military delinquency:

1. Increased knowledge among medical officers and officers of the line as to causes of military delinquency.

2. Increased efficiency of the recruiting system so that the unfit are eliminated at the time of enlistment.

3. Use of best efforts on the part of medical officers to reduce the tremendous amount of intemperance at present existing in the army. Most of the cases of alcoholism began their excesses prior to enlistment.

Glueck, Bernard. The Malingerer; a Clinical Study. International clinics, v. 3, series 25, 1915, p. 200–52. References

There is a gradually gained conviction that malingering and actual mental disease are not only not mutually exclusive phenomena in the same individual, but that malingering itself is a form of mental reaction manifested almost exclusively by those of an inferior mental make-up, and cases of pure malingering in normal individuals are rare.

Further, malingering, as well as lying and deceit, far from being a form of conduct deliberately and consciously selected by an individual for the purpose of gaining a certain known end, is in a great majority of instances wholly deter-

mined by unconscious motives, by instinctive biologic forces over which the individual has little or no control. This makes differentiation between the genuine and malingered symptoms in a given case very difficult.

In the last analysis, malingering is a special form of lying. It appears to certain individuals as the only possible means of escape from and evasion of a stressful and difficult situation.

The transition from absolute health to distinct mental disease is never delineated by distinct landmarks but shows any number of intermediary gradations. To state definitely where normality leaves off and disease begins would be impossible. However, legally, no intermediary stages between mental health and mental disease are permitted—an individual must be sane or insane.

In malingering we see the application of deceit and lying to a definite situation. The malingerer aside from being a malingerer is worthless mentally, and this mode of reaction is at times resorted to by individuals who had always been looked upon as being far from incompetent, which proves that under special stress, especially mental stress, men readily sink to a lower cultural level and resort to the defensive means common to this level.

Clinically, malingering is to be considered from three distinct viewpoints:

1. Malingering in the frankly insane;
2. Malingering in those apparently normal mentally;
3. Malingering in that group of borderline cases which should rightly be looked upon as potentially insane and as constantly converging upon an actual psychosis.

It may be difficult for the lay mind to appreciate that an individual may be suffering from an actual psychosis and at the same time malinger mental symptoms. The frankly insane at times manifest conduct which, taken by itself, differs in no way from normal conduct, and the so-called normal individual at times exhibits a type of reaction which is essentially of a psychotic nature.

The conclusions which may safely be drawn from the study of malingering as it is manifested in criminal departments of insane hospitals are as follows:

1. The detection of malingering in a given case by no means excludes the presence of a mental disease. The two phenomena are not only not mutually exclusive, but are frequently concomitant manifestations in the same individual.
2. Malingering is a form of mental reaction manifested for the purpose of evading a particularly stressful situation in life, and is resorted to chiefly, if not exclusively, by the mentally abnormal, such as psychopaths, hysterics, and the frankly insane.
3. Malingering and allied traits, viz., lying and deceit, are not always consciously motivated modes of behavior, but are not infrequently determined by motives operative in the subconscious mental life, and accordingly affect to a marked extent the individual's responsibilities for such behavior.
4. The differentiation of the malingered symptoms from the genuine ones is, as a rule, extremely difficult, but great caution is to be exercised in pronouncing a given individual a malingerer.—R. Sheehan.

U. S. Navy. Report of Surgeon-General. 1915. p. 13–14

The admissions for these disorders show no change from those of the preceding year.

1910 rate per 1,000 of personnel	5.20
1911 rate per 1,000 of personnel	4.25
1912 rate per 1,000 of personnel	3.97
1913 rate per 1,000 of personnel	4.11
1914 rate per 1,000 of personnel	4.11

The occurrence of cases of mental disease in the service is comparatively slight; among a personnel of 67,141, admissions were 276, the fireroom force leading with 52 (4.26 per 1,000), marines 50 (5 per 1,000), and apprentice seamen

82 (14.10 per 1,000). The prevention, detection, and care of the naval insane is not our main problem in connection with this subject. The mentally unfit betrays himself by his inability to successfully cope with service conditions that his comrades find usual and normal. As Passed Asst. Surg. H. E. Jenkins says, "such persons are unable to accustom themselves to their environment, which is frequently changing. They have very little regard for discipline, not realizing that such a thing is absolutely necessary for an efficient military organization. From their comrades they receive considerable ridicule and as a result are greatly depressed. . . . They are a continual source of annoyance to their superiors, can not be trusted in performing duties where any ordinary ability is to be used, and are absolutely misfits."

Undoubtedly some few of the 276 admissions entered the service entirely sound mentally, and from some stress or worry lost even their normal balance. But the great majority must have entered the service with this bias already actually or potentially established. This subject was discussed in my last annual report, and the hope was expressed that ultimately the subject would so crystallize that a practical and efficient working method could be devised to eliminate these undesirables on their first application for entry into the service. Interesting reports made to the bureau were published in the April, 1915, number of the United States *Naval Medical Bulletin*, from Drs. Sheehan, Thomas, Jenkins, and Schier. I am more inclined to believe that these hopes will be realized and that from observations already made, aided by further developments, a scientific classification according to mentality may be devised, which will be practical in its application, and economical in its time consumption, which will prevent the entry of the unfortunates into the service and incidentally eliminate the hitherto undetected defectives now in the ranks.

Such a procedure, the result of deliberation and tabulating of results by the navy's experts in collaboration with the many others in civil life now showing an active interest in the subject, could be officially adopted as a test to be used routinely should time allow, and if the pressure of work at recruiting stations at times was hampered thereby, could be more thoroughly carried out on receiving ships or at training stations.

Such tests can, however, never become exact measures, or accurate instruments of precision, and even if the most rigid adherence to directions is given, the equation of the varying examiners will influence results. But the sum total must be improvement. The service may lose good men, but many men will be kept out whose acceptance would be detrimental.

The standing of a naval career as a calling is constantly being elevated, and with such progress and its universal recognition the standard of those applying for enlistment constantly improves and their numbers increase. By an appropriate coincident elevation of the requirements the personnel will automatically keep pace in better moral, mental, and physical advancement.

U. S. Surgeons-General of the Army and Navy. Mental Disease, Suicides and Homicides in the United States Army and Navy, 1897–1915; prepared from the Annual Reports of the Surgeons-General by E. M. Furbush. Mental Hygiene 1:406–08, July, 1917.

Table I

Rates per 1,000 of insanity admissions, enlisted men, United States Army, 1897 to 1915, inclusive

Year	For average total enlisted men	For enlisted men in U. S. proper (exclusive of Alaska)	For enlisted men in Philippines (not natives)
1897	....	.83	....
1898	1.08	1.24	2.07
1899	1.78	1.72	2.97
1900	2.72	1.30	2.79
1901	1.79	1.28	2.04
1902	1.71	1.26	2.47
1903	1.06	1.02	1.05
1904	1.69	1.71	1.75
1905	1.62	1.61	1.45
1906	1.49	1.33	2.02
1907	1.88	1.79	1.88
1908	1.50	1.58	1.09
1909	1.61	1.63	1.56
1910	1.59	1.58	1.87
1911	1.73	1.68	2.01
1912*	3.45	3.26	3.56
1913*	3.44	2.92	4.83
1914*	4.18	3.83	6.24
1915*	3.82	3.04	7.27

* "Mental Alienation" includes several conditions not included under the term insanity used previously, such as defective mental development, constitutional psychopathic state, hypochondriasis, and nostalgia.

Table II

Suicides and homicides, enlisted men, United States Army, 1897 to 1915, inclusive

Year	Mean enlisted strength	Suicides		Homicides	
		Number	Rate per 1,000	Number	Rate per 1,000
1897	27,374	10	.37	..	....
1898	147,795	38	.26	19	.13
1899	105,546	30	.28	23	.22
1900	100,389	42	.42	28	.28
1901	92,491	..	....	..	....
1902	*80,778	..	....	..	....
1903	†67,643	34	.50	9	.13
1904	60,139	27	.45	10	.17
1905	58,556	31	.53	20	.34
1906	58,572	39	.67	9	.15
1907	54,949	26	.47	17	.31
1908	67,515	39	.58	22	.33
1909	75,399	33	.44	15	.20
1910	71,814	31	.43	16	.22
1911	73,023	46	.63	18	.25
1912	79,613	54	.68	20	.25
1913	81,697	42	.51	17	.21
1914	88,133	44	.50	25	.28
1915	94,729	50	.53	21	.22

*Includes 4,826 native Filipinos.
†Includes 4,789 native Filipinos.

Table III

Comparison of admissions for insanity and epilepsy, enlisted men, United States Army, 1903 to 1915, inclusive

Year	Insanity		Epilepsy	
	Number	Rate per 1,000	Number	Rate per 1,000
1903	72	1.06	83	1.23
1904	99	1.69	128	2.18
1905	92	1.62	133	2.34
1906	84	1.49	112	1.98
1907	101	1.88	122	2.27
1908	98	1.50	159	2.43
1909	120	1.61	129	1.74
1910	114	1.59	115	1.61
1911	126	1.73	126	1.73
1912	*270	3.45	91	1.16
1913	*278	3.44	116	1.44
1914	*365	4.18	108	1.24
1915	*358	3.82	114	1.22

* "Mental Alienation." See note, Table I.

Table IV

Suicides, homicides, and admissions for mental alienation and epilepsy, enlisted men, American Army, 1912 to 1915, inclusive

Year	Mean enlisted strength		Mental alienation		Epilepsy		Suicides		Homicides	
	Adjutant General's report	Surgeon General's report	Number	Rate per 1,000	Number	Rate per 1,000	Number	Rate per 1,000	Number	Rate per 1,000
1912.....	79,613	78,267	270	3.45	91	1.16	54	.68	20	.25
1913.....	81,697	80,766	278	3.44	116	1.44	42	.51	17	.21
1914.....	88,133	87,228	365	4.18	108	1.24	44	.50	25	.28
1915.....	94,729	93,262	358	3.82	114	1.22	50	.53	21	.22

Rates for mental alienation and epilepsy are computed upon the average enlisted strength as shown by the Surgeon General's reports, while rates for suicides and homicides are based upon the strength according to the reports of the Adjutant General.

Table V

Insanity admissions, suicides and homicides, Navy and Marines, 1909 to 1915, inclusive

Year	*Insanity			Suicides		Homicides	
	Mean enlisted strength	Number	Rate per 1,000	Number	Rate per 1,000	Number	Rate per 1,000
1909.....	57,172	145	2.61	17	.30	..	...
1910.....	58,340	186	3.16	20	.34	7	.12
1911.....	61,399	214	3.48	22	.35	..	...
1912.....	61,897	201	3.39	16	.25	7	.11
1913.....	65,926	285	4.32	14	.21	5	.08
1914.....	67,141	276	4.11	21	.31	4	.06
1915.....	68,075	190	2.79	21	.30	1	.01

* Rates for insanity admissions are computed upon average strength as shown by returns from medical department.

Penhallow, D. Pearce. Mutism and Deafness Due to Emotional Shock Cured by Etherization. Bost. med. and surg. j. 174: 131, Jan. 27, 1916

L. H., age 25, private in the Durham Light Infantry, was admitted to the American Women's War Hospital, July 30, 1915, suffering from marked emotional shock. At the time of admission he was unable to talk but could write answers to any questions which were asked him and gave the following history:

On active duty at Ypres and had been in the trenches for about four days; he and some other men were on watch on the first of July and some of the party were sitting down in the trenches when two shells from the German lines came over the trench, the first of which fell and exploded just near his feet, killing six men and leaving only himself and a sergeant, and the second burst close to his head. Strange as it may seem, he was not wounded by either shell. Patient states that the noise was terrific and following the explosion of the shells everything became dark and he apparently lost consciousness, and he knew nothing further till he found himself in No. 8 General Hospital, Rouen. When he regained consciousness he was deaf, dumb and blind. A few days later, however, he regained his sight and shortly after that he was able to hear in one ear, still remaining somewhat deaf in the other.

Patient is a well developed and nourished man, rather confused, vague and nervous. On his first night in the hospital, he is said to have answered one question which was asked him by the nurse relative to the trouble, his answer being "concussion." Except on that occasion he did not speak and when asked to speak or make any sound he could, he made expiratory efforts but no sound; when asked to whistle he did the same, even after repeated trials. He was still apparently somewhat deaf, for if he was simply spoken to he paid no attention, but on clapping the hands near his ear or attracting his attention, he would seem to understand what was said; he also stated that he could hear a little bit better with the left ear than with the right. His co-ordination, sensation, and motions were apparently normal. There was no tremor of the hands, but a somewhat marked tremor of the tongue. He walked with a slow, deliberate, careful gait, eyes on the ground, toes flexed and held rigidly—a typical "tight rope" gait. With the eyes closed he nearly fell and could not stand on one leg. Knee reflexes moderate. On plantar reflex test he pulled the whole leg away and went into a general body tremor. The toes were spastically extended and later flexed. There was marked photophobia when the eyes were tested with a small electric light.

From admission to the hospital to September 22, the patient made no vocal sounds, although he made many attempts. On the latter date he could apparently hear well, the gait in walking had become normal and all tremors and uncertainty had disappeared; the reflexes also were practically normal.

October first it was decided to give the patient primary ether to see if by any possible chance the relaxation would cause him to regain his speech. This was done, and during the etherization he reviewed in a loud tone of voice the whole scene which occurred at the time he lost his speech and on recovery from the ether he was able to talk perfectly well. He also stated that he could hear much better than at any time since he had been in the hospital.

This case illustrates very strikingly one of the many types of emotional shock due to the severe concussion of bursting shells and is reported simply as an unusual case of hysterical manifestation incident to the strain and tension to which the men at the front are constantly exposed.

Thomas, G. E. Second Report on the Schier Test for Mentality, with Special Reference to the Point System. U. S. naval med. bull. 10: 68–70, Jan. 1916

"Since my last report,* data covering the mental examination of 300 prisoners has accumulated. The results obtained in these examinations have been tabulated: first, according to the old system of marking; second, according to the point method suggested by Dr. Schier . . . and third with the view of comparing those found mentally deficient by either or both systems.

"According to the old system of marking, 70 per cent was taken as the passing mark and of 300 examined, 29.6 per cent failed. This result corresponds with my last report in which 28 per cent of 100 prisoners examined failed to pass the 70 per cent minimum.

"By the new point system in which a mark less than 50 per cent is considered indicative of definite mental deficiency, 19.5 per cent of the 300 cases failed."

Tables giving results by the old system and by the new point system, and a comparison of the two, follow. These show that class C of the cases examined by the Schier test—the class of average or doubtful—contains some mental defectives of the serious type.

"It is apparent that if a mental test is to be of any value a definite line must be drawn between the mentally desirable and undesirable, and although no test as yet designed can exactly fulfill this requirement it is believed that a line can be established that will exclude the greatest number of defectives and a minimum of normals. If by such an arbitrary standard we occasionally exclude material that will prove efficient and desirable, but by this same standard, we exclude the great majority of defectives, this weakness is excusable. . . ."

"I am strongly of the belief, based on the results of 500 examinations by the Schier system, that a 70 per cent minimum passing average is not too much to demand of the recruit. There is no doubt that a very small percentage—I do not think more than 3 per cent—of men who would be efficient and valuable to the service would be excluded by this arbitrary standard, but this sacrifice is small indeed when we exclude, which I believe we do, the great majority of the inefficient."

Journal of Amer. med. assoc. 66: 969, March 25, 1916. Schools for Soldiers with Brain Injuries (Berlin Letter, Feb. 15, 1916)

In discussing this subject, Professor Goldstein of Frankfurt-on-the-Main said that injuries to the brain result not only in physical, but particularly in psychic defects, the latter predominating. Speech disturbances of various kinds practically make invalids of these patients, and they become unfitted for various occupations. Many of the mental disturbances, if not of severe type, gradually disappear spontaneously; some of the patients can be re-educated, especially if they are young, so that a sort of compensation for lost function can be established. They must be taught to speak just as children are; but they will be found to be much more backward. The only proper teacher for them is a physician who is well versed in neurology and neuriatry. A special school should be established, and the re-education treatment must be begun early before the surgical treatment is completed. Instruction should be individual, and special consideration given to the fact that these patients tire easily and that psychic shocks must be avoided. The schools should be established in hospitals, and special institutions for further treatment provided so that the patients can remain separated from the usual run of "nervous" patients. The results obtained thus far are very promising. It probably will not be possible, however, to restore these patients so that they can return to their former places in the community, but every effort should be made to influence them psychically to a degree which will permit any one of them to return to his family.

* See p. 235, Thomas, G. E., Value of the Mental Test, etc.

Professor Poppelreuter (Cologne-Lindenthal) described his experience at an institution of this kind in Cologne. There were sixty patients with twelve instructors. Attached to the school is a workshop or a sort of manual training department in which can be determined the patient's ability to do work. Many of the injured are able to work, although they cannot resume their places in the ordinary workaday world. Therefore, suitable employment must be secured by some body organized for that purpose.

Professor Gutzmann of Berlin did not agree with Goldstein that these patients should be taken in hand early. He has eighty patients suffering from speech disturbances in his care at the Charité. His experience has led him to fear that harm may be done by beginning this instruction too soon.

Journal of Amer. med. assoc. 66: 1398, April 29, 1916. Psychic Disturbances Incident to the War (Berlin Letter, March 28, 1916)

Shortly after the beginning of the war a neutral European periodical, the *Telegraph*, of Holland, published a statement, credited to a French psychiatrist, that since the beginning of the war 750,000 German soldiers and 1,600,000 civilians had become insane. Professor Bonhoeffer, the Berlin psychiatrist, made an investigation of this subject. He found that the war cannot be held responsible for any particular psychic disturbance. In fact, the same types of mental diseases are prevailing now as in times of peace, nor is there any change in the syndrome of any psychic disorder. The usual type of psychic disturbances, that is, dementia praecox and the manic depressive insanities, are encountered in their usual form. Of course, there is bound to be some difference in the clinical history of these diseases because of the fact that these patients live in a different environment; but this cannot be held responsible for the creation of a different type of disease. Nor do these disturbances occur more frequently now than during times of peace. These facts throw an entirely new light on the etiology of mental diseases, because if exhaustion, lack of sleep and emotional disturbances really play the role in the production of these diseases that has been credited to them, then they ought to occur more frequently at the front during war time than at home during times of peace. Still this is not the case. In fact, we are informed by the psychiatrists at the front that, while the exhausting marches, the comparatively poor housing and the constant exposure to the shock of exploding shells are productive of nervous disturbances, a real psychosis has not been developed. Neither is it believed that life at the front will predispose to the development of psychic disturbances later on.

Of course, the so-called psychopath, the subnormal individual, probably is an exception in that he is more exposed to conditions which may early break down the sensitive borderline between the normal and the subnormal. These persons, however, also form a distinctive group in ordinary civil life and break down quickly under unusual mental strains. Therefore, the war can hardly be held responsible for the production of a condition which already exists. It has been shown that the majority of the psychic nervous disturbances encountered since the beginning of the war have occurred among these individuals. The clinical manifestation is usually a variation in temperament, paralyses, spastic conditions, peculiar forms of delirium and loss of memory sense. In fact, the picture is recognized as being of the hysterical type, and every form of hysteria is seen just as it occurs in times of peace. Hence, one cannot speak with propriety of war psychoses. The war merely causes these cases to occur earlier and more frequently, although under ordinary conditions some of these persons might have escaped the psychic breakdown. It has been the aim of the military authorities not to permit the psychopath to enlist for service, but naturally many difficulties are met in attempting to determine who is and who is not a psychopath because of the very slight differentiation that may exist between the normal and the

subnormal. In the case of many psychopaths the condition is not recognized until the man has seen service, and furthermore, many psychopaths render good service without any or only slight psychic disturbances. Military service has helped some psychopaths to overcome the deficiency. Their disturbed, easily excited mentality has prompted them to enlist for service as volunteers; the strain of such service has helped them to forget their mental shortcomings, and they have been molded into good soldiers. Certain types of psychopaths, the adventurer, the youthful transgressor, the boy who has fought school discipline, the young man who has come into conflict with the police, who has fought law and order, often finds himself entirely at home and at peace with the law and himself when he sees service at the front. Many incorrigibles who have been enlisted from institutions have made splendid soldiers. Thus it will be seen that the psychopaths cannot be and should not be prohibited from entering on military service. Often the most careful selection is bound to be followed by a certain number of cases of psychic and nervous disturbances in psychopaths. Just how great this number will be cannot be stated at this time. The individual experiences of the psychiatrists at the front lead one to believe that the number is not very great. They report that their services have not been called for to treat psychic disturbances, and there has been no demand for the establishment of special so-called psychic stations at the front as was the case in the Russo-Japanese War.

Auer, E. Murray. Phenomena Resultant upon Fatigue and Shock of the Central Nervous System Observed at the Front in France. Med. rec. 89: 641–44, April 8, 1916

"The manifestations of disordered function of the central nervous system resultant upon fatigue and shock occurring in the present war are of uncommon interest, having as they do for their etiology a more or less common factor, i. e., 'a mine explosion' producing its varying effects upon the number involved, and because of their great variety, illustrate strongly the matter of 'the individual equation' in reaction and resistance to outside influences.

"The functional nervous and mental disorders studied included those resulting from the general fatigue of duty and long marches, exposure, loss of sleep, terror, and 'shock,' which latter cases depended upon the activity along the firing line such as 'mine explosions,' charges, and shell explosions in the immediate vicinity of the individual without causing any apparent physical trauma.

"The symptomatology occurring as a result of these traumatic influences included disordered activity of the psychic, special sense, sensory and motor elements, invariably in combination with one phenomenon of disordered function accentuated."

Among mental and nervous states resulting from severe shock have been the following: hyper- and hypo-mental activity, characterized by increased motor and psychical activity such as playfulness, grimacing, flight of ideas, distractibility and rhyming of an acute mania; stupors, muscular rigidity, active deep reflexes, apathy and indifference; tremor and shaking; disturbances of memory ranging from simple forgetfulness to lapse of unconsciousness; dementia praecox precipitated by existing conditions of stress; inability to sleep and horrible trench dreams; neurasthenia; psychical pains; disturbance of organic functioning; vasomotor disturbances; abnormal sensations of all kinds and dyesthesia; loss of motor power, both of gradual and acute onset according to the nature of the shock; impairment of vision, resulting from prolonged fatigue or sudden shock; auditory disturbances of a hyper- or hypo-sensitive nature; hesitancy and loss of speech, and various kinds of tics.

Inquiry into the early history of the cases studied resulted, without exception, in the discovery of earlier neurotic manifestations. Physical examination showed

nothing unusual other than stigmata of degeneration. Treatment consisted in isolation and absolute rest, with corrective measures and psychotherapy.

Sheehan, R. Exclusion of the Mentally Unfit from the Military Services. U. S. naval med. bull. 10:213–49, April 1916. Illus. by photos of mentally unfit types. References

The writer demonstrates, by quotations from statistical tables presented in the annual reports of the Surgeon Generals of the Army and Navy, that mental and so-called nervous diseases among enlisted men and officers are responsible for much nonefficiency and disability in the services, and large expense to the government. Of cases admitted to the Government Hospital for the Insane from the Navy, "it is estimated that about fifty-four per cent show predisposition to mental disease prior to enlistment. As to the form of insanity which service men are most likely to develop the records show that over fifty-six per cent were diagnosed as dementia praecox. That of general paresis was made in about twenty per cent, cerebral syphilis three per cent, manic-depressive psychosis about two per cent, miscellaneous about twenty per cent." The large proportion of dementia praecox cases is not remarkable when it is considered that this disease is essentially of the adolescent period. Because of the preponderance of this type of insanity, the writer describes in detail the type of individual prone to develop dementia praecox, its symptoms, etiology and pathology, and gives cases.

The feebleminded include those individuals who are deficient in the sphere of intelligence. "Of course only the milder grades should cause any diagnostic difficulties. . . . Great assistance was expected from the use of the Binet-Simon scale. However it has not been found that this, in its present form, is adaptable to service use. . . . Of more value is the knowledge of the reactions of the subject to his environment. A cross section of his career will give us the most valuable data on which to base his exclusion." Case histories follow.

Psychopathic characters are individuals who are "failures of mental adaptation." They are not feebleminded nor insane, but are clearly abnormal mentally. This group includes the so-called defective delinquents, the moral imbeciles, the constitutional psychopaths and inferiors, and the pathological liars and swindlers. Cases illustrating these types are described.

Prison psychoses is a term "applied to the group of psychotic complexes which can not be satisfactorily classified under any of the regular terms used to denote mental disease entities. . . . The term is of value as it emphasizes the etiologic potential of imprisonment as a provocative agent in the causation of psychotic states requiring hospital care." Citation of cases follows.

Psychoneuroses comprise the minor psychoses, and are responsible for most of the cases of mental disturbance in officers. Neurasthenia, hysteria and various kinds of obsessions are included in this group. Individuals suffering from this type of mental disability are unable to adapt themselves to the conditions of everyday life and so spend their energy in useless conflict. "They can only be eliminated by careful attention to their life history, and if it is found that they have always manifested an abnormal character of reaction, which has persisted in the service, it may be concluded that it is 'constitutional . . . an abnormality of make-up.' They should be passed upon by boards of medical survey and discharged for disability not in the line of duty."

Dr. Sheehan devotes the remainder of his article to a consideration of epileptics, syphilitics, alcoholics and drug addicts in the service, and concludes with a selective list of twenty-three references.

A special feature of the article is a series of reproductions from photographs of individuals illustrating the various types of mental unfitness for military services.

Journal of Amer. med. assoc. 66: 1635, May 20, 1916. Nervous Disorders (London Letter, May 1, 1916)

Nervous disorders due to the shock and strain of bombardment are conditions which cannot be affected by hygienic precautions. With the modern development of big guns and high explosives, shell-shock has become frequent. A committee has been appointed to investigate the subject in co-operation with the leading French neurologists. The cases have shown great divergence from the disorders observed in civil life. When exposed to concussion of a high explosive, a variety of symptoms may be produced. All consciousness of the explosion may be obliterated, or the soldier may simply become dazed, and afterward his conduct may be "curious" and his actions indeterminate. For these conditions the only treatment is rest. After a heavy bombardment a healthy man may break down, and if removed to a place of safety, collapse and fall asleep in spite of the noise that is going on. Some men then recover, but others cannot support noise for a long time. They show overreaction to noise. A cab whistle or an exploding tire outside a convalescent home will bring some patients from their beds. In another group a condition of nervous irritability rather than exhaustion is produced. Thus continuous shelling, even though it produces few casualties, has a wearing down effect. In men with a stable nervous system the effect is temporary, but it is not so in those with neurotic tendencies. Hence our neurologists who are familiar with the nervous systems of our men and our enemies predict that the imperturbable British temperament will confer an advantage in the coming struggle.

Med. rec. 90:109, July 15, 1916. Psychiatric Treatment of Soldiers (Editorial)

There seems to be a certain amount of conflict of opinion as to the effect on the nervous system of soldiers fighting in Europe, of the unprecedented conditions of warfare existing there. It was freely predicted at the outset of the war that the present generation of young men and especially of those of England and France whose vital energies were said to be sapped by city life and self-indulgence would inevitably break down under the fearful strain of war. The conditions of war have been worse than anticipated and it appears on the whole that the fighting men have borne up very well under them. Some say that affections of the nervous system have been infrequent, while others declare that a large proportion of soldiers are incapacitated by such disorders. Perhaps the truth lies in the mean.

In a special bulletin issued in April, 1916, by the Military Commission of Canada, Dr. C. R. Clarke of Toronto discusses the psychiatric treatment of soldiers. According to this authority, the question of caring for returned soldiers suffering from mental and nervous troubles has engaged the attention of the Canadian medical profession in a marked way since the actions of last year. He points out that new conditions have arisen since the use of high explosives and the mental strain during action seems to be of the most severe character, with the result that numerous such cases are encountered requiring special treatment.

With regard to the manner in which such patients should be treated, the writer emphasizes the fact that neither convalescent homes, general hospitals, private houses, nor asylums are appropriate places in which treatment may be carried out. As convalescent homes and general hospitals are obviously unsuitable for the treatment of these cases, under the present conditions cases of marked mental trouble, although curable in the majority of instances, have to be sent to asylums. Of course, this is most unfair and, in a manner of speaking, a tragedy, for not only does it place upon the men the stigma of being certified inmates of a hospital for the insane, but perhaps in the majority of cases it precludes the possibility of successful treatment. In the large proportion of cases

proper and intelligent treatment will cure, while it is equally as obvious that unintelligent and careless treatment will tend to aggravate the mental state, and life in an asylum is apt to have the most dire results.

As Clarke says, modern methods demand that recent cases of mental disease should receive just the same attention that cases in a general hospital secure. What should be done is to acquire a house of suitable structure which will afford accommodation for a certain number of patients. The necessary staff is best lodged in a separate building. This hospital should be equipped with the most modern scientific, hydrotherapeutic, and electric apparatus demanded in the care of such patients, and especially should the medical attendants be men who have been well trained in the diagnosis and treatment of mental disorders. This, after all, is the most important point. If a correct diagnosis be not made, the patient will not be treated as he should be treated, and a medical man to be able to make a correct diagnosis must be an expert. Also nurses should be specially qualified and should be women of the highest type, as on the sensible nursing of psychiatric patients the outcome largely depends.

During recent years it has been increasingly evident that in order to treat mental disorders intelligently new methods must be devised. Some men are peculiarly fitted by temperament and order of brain to deal with such cases, and these men should be rendered as skillful as possible by long training. We are now on the eve of managing mental affections in a sensible manner, and the war in Europe will, it is to be hoped, tend to develop a really scientific system of differentiating between the various kinds of mental aberrations and of treating each kind on its merits, or rather in the way that its peculiarities call for.

Journal of Amer. med. assoc. 67: 524, Aug. 12, 1916. Treatment of Nervous and Mental Shock in Soldiers (Lond. Letter, July 24, 1916)

The terrific and unprecedented bombardments of the present war, combined with fatigue and exposure, have naturally given rise to numerous cases of nervous and mental shock. These fall into three main groups. In the first the symptoms are due to the bursting of high explosive shells near the patient or to the secondary effects of the explosion, such as burial under earth and débris or the inhalation of noxious gases. The second group includes cases of a general neurasthenic character, attributable to exhaustion of the nervous system resulting from physical and nervous strain, sleeplessness, fear, anxiety, and harassing sights and experiences. The third group includes cases of mental breakdown, mental confusion, mania, melancholia and delusional psychoses. At the commencement of the war the patients with nervous shock and neurasthenia were transferred from overseas with medical and surgical patients, and were treated in the general wards of the hospitals at which they arrived, while the patients with mental disorder were transferred to the established institutions at Netley for the treatment of mental patients in the service of the army.

As the number of cases increased, a more elaborate organization became necessary. The following is the present plan: On arrival at one of the British base hospitals abroad, the soldier's condition is investigated by a special medical officer. The patient then is sent to a section of a hospital according as his symptoms are of a neurologic or a mental character. Should he be suffering from transitory mental symptoms which subside rapidly, he is transferred from the mental to the neurologic section as soon as it is advisable to do so. For such cases special accommodation is provided so that the patient may be placed under the most suitable circumstances for rapid recovery. The patients are then labeled for transference to one of the clearing hospitals at home—if neurologic to one, if mental to another. On arriving at the clearing hospitals, or at a neurologic section in any general hospital, the patient is given treatment. If his symptoms are slight or transitory and disappear rapidly, he is sent on

furlough, and later is returned to light duty. On the other hand, should the course of the disorder be less favorable or should symptoms develop which require special supervision, or if the case is likely to be protracted, or to require special treatment not available in the section, the patient may be transferred to one of the special hospitals for nervous diseases or to a special institution. If for various reasons it has not been possible to send patients home through the clearing hospitals so that they arrive directly from overseas at central or auxiliary military hospitals in which there is no neurologic section, or to which no medical officer with special experience is attached, a short period of treatment is given; but should recovery not take place within two or three weeks, the patient is transferred for treatment to the neurologic section of the nearest territorial general hospital. Neurologic cases include most forms of functional paralysis, especially paraplegia, disturbances of speech and articulation, amnesia or loss of memory, the effects of terrifying dreams, mutism, deafness, deaf-mutism, amblyopia, "bent back," tremblings and motor agitations, ticlike movements, sleeplessness, nervous debility, indecision, loss of self-confidence and the milder forms of neurasthenia, simple mental confusion, the anxiety psychoneuroses and simple mental depression. The treatment consists chiefly of rest and feeding; massage, and electrical applications in suitable cases; baths, when these seem indicated, and psychotherapy in the form of simple suggestion and occasional hypnosis. The results of treatment show 40 per cent of patients returned to light duty, 20 per cent invalided, and 20 per cent transferred for further treatment to special institutions.

In mental cases the patients are examined by the special medical officers attached to the hospital. All patients suffering from the severer psychoses of a certifiable type are given two or three weeks' probationary treatment. If no recovery has taken place during this time, they are transferred to a special hospital. The number of patients who recover during their stay and are returned to light duty is negligible. The patients transferred to the mental hospitals are of a certifiable type and include most of the severe forms of acute, mental disorder—the confusional psychoses, mania, the graver melancholias, acute delusional and hallucinatory psychoses, dementia praecox, mental deficiency with confusion, general paralysis of the insane, and epilepsy with mental symptoms. In accordance with accepted policy, none of the patients in these hospitals is certified as a person of unsound mind. Each patient is given a reasonable period of treatment with a view to recovery. In consequence, however, of the accumulation of chronic and incurable cases which was observed a few months ago, all cases of general paralysis of the insane, of epilepsy with insanity, and all patients who had been in asylums prior to enlistment are sent to asylums. A certain number of chronic cases are also sent if no improvement is recorded after a reasonable period of observation and treatment.

Barker, Lewellys F. War and the Nervous System; Address Delivered at the 42d Annual Meeting of the American Neurological Association, 1916. Printed in full in the Journal of Nervous and Mental Disease, 44: 1–10, July 1916

Dr. Barker says that as the result of the studies which have been made during the present European war our knowledge has been enlarged in reference to organic nervous lesions, functional nervous disorders, psychiatry, and normal psychology. So far as wounds of the brain and spinal cord are concerned, the accepted views regarding topical diagnosis are being corroborated. It has been established that certain organic lesions of the central nervous system may be caused by modern high explosives without external wound. Surgeons are unanimous in urging the thorough investigation of every head wound, no matter how trivial it may at first seem to be. As regards the peripheral nerve injuries,

it has been shown that loss of power due to section of tendons or muscles may sometimes be confused with paralysis due to lesions of the nerves themselves. Contrary to what many have expected, nervous states not due to organic lesions, though fairly numerous, have in reality made up but a very small proportion of the total number incapacitated by war. All the well-known types of the functional nervous disturbances have been met with. While the number of simulators and malingerers is large, those more experienced in the psychoneuroses believe that the number of true, or vulgar simulators, is very small. It has been pointed out that malingering itself is a psychiatric symptom. As regards the psychoses, it is surprising that such a small number of cases of insanity have been reported. It is asserted that the majority of soldiers in whom psychoses have been observed either manifested symptoms of the diseases before the war or gave definite evidence of predisposition to mental disorder. The evidence seems to favor the view that the human nervous system is today better able to stand strain than ever before in its history.—Med. rec. 90: 211, July 29, 1916.

Med. rec. 90: 374, Aug. 26, 1916. Functional Psychic Disturbances in the Light of War (Editorial)

Psychiatrical problems receive their share of enlightenment from the vast laboratory the war has thrown open to medical science. Neuropathology and psychopathology are the subjects of much attention and discussion. Thus it comes to pass that modern theories in regard to the relation of psychic trauma and psychopathic predisposition are being distinctly advanced.

The observations made by Dr. Lewellys F. Barker in his presidential address delivered before the American Neurological Association in May, 1916, printed in full in the *Journal of Nervous and Mental Disease* for July, and in abstract in the *Medical Record* of July 29, are confirmed by reports from the front, a number of which are published in abstract in the *Review of Neurology and Psychiatry* for May, 1916. There is an agreement of opinion that a distinction can assuredly be made between the psychotic or the psychoneurotic disturbances arising as the result of battle shock and that which is complicated by a psychopathic tendency, which only awaits, in order to become active, such extreme conditions and such excessive and untoward demands for adaptation as the exigencies of war present. Sudden and violent abnormalities in reaction are inevitable. Their occurrence, however, in no way denies the importance to be attached to the unconscious mental life in the production of mental disturbances. It does not argue for the current inflexible conception of pathological causes which attribute such phenomena always to the immediate traumatic agent.

It is noteworthy that these disturbances of mental equilibrium, inevitably induced and violent though they may be in character, are easily amenable to a wise therapy. The factor of chief significance in the consideration of the genetic theory of the functional neuroses and psychoses is the appearance and perhaps persistence of accompanying mental phenomena which seem to be aroused by the immediate traumatic outbreak and to follow in its train. Testimony points generally in this direction, that it is with the man who furnishes the fruitful soil, neuropathic or psychopathic, in whom these sequelae are observed. The precipitating cause applies the spark to the unconscious material. The actual emotional importance of the immediate trauma manifests itself in the terrifying nature of the dreams of actual war experience. These, however, are transient phenomena. There are blended with these dreams, Dr. Bruce reports, quoting from the *Lancet*, "episodes utterly alien to the war" and events "in the patient's past history, the revivified emotions associated with which the war incidents have served to awaken, by stirring up similar emotions." One might expect some experience of horror to usurp consciousness and even to build up a permanent delusional system, which does happen at times unless an interpretative therapy

comes to the rescue. Nevertheless, the deep-laid emotional experiences and sentiments which make up the personality, chiefly through the unconscious, by their self-assertion in the face of such crises, witness to the measure of their importance and reality.

The psychotherapy of the battlefields and hospitals is permeated with the modern comprehensive viewpoint and conditions there are met in the spirit which takes into account the whole psychical history, recognizes the remote contributing causes and believes in the value of the interpretative attitude toward the patient himself and in his psychic re-education. It is striking to note in passing how frequently hypnosis is condemned as inadequate or actually deleterious. It is also of interest to observe how the demands of reality operate under war conditions to bring the patient back to his normal state, particularly in the acute transient conditions without the psychopathic background. This serves as an intensified illustration of the fundamental principle of psychoanalytic therapy. It is a radical application of the "reality principle" as the royal road to psychic health, a reality specially urgent and particularly effective amid the necessities of war.

Much of interest and much of value is thus afforded in the knowledge of mental disturbances, in the borderland cases as in the distinctively neurotic or pronounced psychotic conditions, and much is being added to the effectiveness of psychotherapy along these lines.

N. Y. med. j. 104:857, Oct. 28, 1916. The Previously Insane Recruit (Editorial)

One of the most puzzling problems with which the recruiting surgeon has to deal is the determination of the mental status of the candidate for enlistment. Many who are high grade imbeciles, who have previously had a psychosis, or who are potential psychopaths, show very little to the observer, even to the medical man if he is unskilled in psychiatry. Consequently in the ordinary enlistment of men in the United States service which goes on in times of peace, many men are accepted who later manifest psychoses and cause the government much trouble and expense before final disposal is made of them. Should war occur we must expect the occurrence of conditions such as have been observed in all the countries now at war, that is, a rush of volunteers, anxiety on the part of the recruiting officers to swell the ranks at the front as quickly as possible, overwork of the military surgeon, and the natural result, the passing of men who are unfit for duty, physically or mentally.

It is the latter class who are most apt to be accepted to the subsequent detriment of the service. Many cases, for example, have come to the attention of the military authorities in Great Britain. Sir George Savage read a paper dealing with these cases before the annual meeting in July of the Medico-psychological Association of Great Britain and Ireland. He had found that many military surgeons, in their natural desire to help their country and holding the enlightened view that one attack of mental disorder should not be held against a man who had made an apparently complete recovery, had accepted men with such a history, only to have them break down, in training or immediately after arriving at the front. A more careful investigation of the family history then usually revealed that there was bad heredity in addition to previous mental disorder.

The attitude of the friends and relatives of the candidate often seemed to be responsible for the enlistment of such men; they were urged to enlist by employers and others who thought they were cowardly because they hesitated, the real reason being fear of their own condition. Finally, unable to bear the stigma of cowardice, they enlist, tell the surgeon they had a mental breakdown years ago, but are all right now, are accepted, and soon collapse under the emotional stress of warfare.

The consensus of the British experts now seems to be that no such recruit should be enlisted; and this is wise. We should not think of advising a man who had had one attack of tuberculosis to accept a job in a dusty workshop; we should not encourage a man who has had a mental breakdown to put himself in a position where he will be subjected to mental strain. The environment of such persons should be as little exacting and as free from emotional tension as possible, yet the exact opposite prevails in an army engaged in sanguinary conflict. These soldiers will cost any government more trouble attending to the many who break down than the few who escape unscathed are worth to it; and our own country should formulate some method of weeding out these men before the exigencies of war make the problem doubly dangerous. It is impossible to foresee how many of our recruits would break down under the strain of modern warfare, but judging from the increase of insane and nervous invalids in this country the number would be large. This is a phase of preparedness that should be heeded.

Sheehan, R. Malingering in Mental Disease. U. S. naval med. bull. 10:646–53, Oct. 1916

"Malingering is the effort of an individual to overcome a difficult situation by the production of mental symptoms. There is getting to be a more generally held opinion that it never occurs in normal persons. . . . It is not always true that malingering is an acutely conscious reaction, as it is often beyond the awareness of the individual, occurring in the subconscious. It is this which makes it difficult to determine which of the symptoms presented are genuine and which malingered. Because of their abnormal make-up these individuals are apt to cause difficulties if they succeed in getting into the military service. Oftentimes they are physically desirable and are enlisted without question. After enlistment, when compelled to contend with service demands and restrictions, because of their psychotic make-up it is not long before they get into difficulties by coming into conflict with authority or by deserting. If this results in placing them under stress, what appeals to them as the easiest way out is to exhibit mental symptoms." Surgeon Sheehan devotes the rest of his article to a citation of detailed cases of malingering in the service.

Journal of Amer. med. assoc. 68: 647–48, Feb. 24, 1917. War Neuroses (Berlin Letter, Nov. 14, 1916)

For the past three decades, since the enactment of the German accident insurance law, there has existed a controversy in regard to the acceptance of Oppenheim's conception of the clinical course of a traumatic neurosis. It seemed for a time as though Oppenheim's views had been rejected entirely, but recent experiences, gained as the result of the war, have again brought his views to the fore, and they have been made the subject of much discussion in periodicals and at meetings. The subject was discussed rather extensively at the recent meeting of the German Society of Neurologists, held in Munich the latter part of September. Oppenheim, Nonne and Gaupp opened the discussion. Oppenheim maintained his former attitude that a neurosis following trauma must be considered as a traumatic neurosis. The trauma, which might have been psychic or mechanical in its action, would in either case produce the same functional disturbances of the central nervous system. A psychic trauma would not necessarily produce only psychic symptoms. The so-called "fright neurosis" and "commotion neurosis" are both traumatic neuroses. A peripheral trauma not having any psychic effect at all may nevertheless produce a typical neurosis. Psychic processes, on the other hand, may cause a fixation of these neuroses. A "free interval" does not interfere with the actuality of a physical trauma. Hyperthermia and hyperthyroidism are encountered in these traumatic neuroses; likewise specific vasomotor-trophic-secretory disturbances, which cannot be referred to hysteria, inactivation or compression. Akinesia amnestica may

be due to hysteria. In its typical development, however, it is not a hysterical picture any more than is a reflex neurosis which bears a relationship to an arthrogenic muscle atrophy. The fact that these patients may be healed by strong mental impulses and peripheral irritations (Kaufmann's method, etc.) does not conflict with the possibility of these cases being traumatic neuroses. Disturbances of innervation are seen in organic and functional paralysis. These spasmodic neuroses resemble hysteria, but are not identical. Torticollis is in the same class. Oppenheim admitted that the spread of hysteria among wounded soldiers was underestimated by him. Traumatic neuroses also occur among prisoners, although less frequently. The traumatic neuroses of the neurasthenic and hysterical type are curable. They are influenced favorably by psychotherapy.

Nonne's views are opposed to those of Oppenheim. He does not regard the traumatic neuroses as a separate clinical entity. The syndrome described under the term "traumatic neuroses" is easily accounted for by the well known neuroses; hence the symptoms should not be ascribed to the trauma, that is, the direct effect of the trauma, but rather to the psychic state of the individual himself and his environment at the time the trauma was sustained. These disturbances are really a reaction on the part of the individual to the new conditions created by the trauma. A somatic trauma is not essential to the development of the neurosis, nor need there be any organic changes of any kind which might serve as a basis for the development of such a neurosis. Practically, Oppenheim's views should be discounted, because naturally they would influence, unfavorably, professional and public opinion, to the detriment of the economic interests of the state as well as the recovery of the individual. The war has shown that individuals possessed of a very stable nervous system may develop symptoms of neurasthenia, but the basis for such a neurasthenia is undoubtedly fatigue. This view has been confirmed by actual clinical experience. The various types of monosymptomatic and oligosymptomatic hysteria (Charcot's classification) occur. The borderline between certain forms of hysteria and fright neurosis is not very distinct. In many cases of war neurosis the nature and operation of the trauma play a greater role than the personality of the patient. Local contractures, akinesia amnestica, reflex paralysis and myotonoclonia trepidans (pseudospastic paresis with tremor) frequently occur among these patients as an expression of hysteria. The psychogenesis may be traced in many cases, and cannot be excluded.

The clinical course of these cases of hysteria does not differ from that of the ordinary case of hysteria. Mechanical disturbances of the peripheral nerves and a consequent irritation of the cerebral and spinal centers cannot be determined definitely. Cures by suggestive therapeusis are opposed to such a view. Partial functional paralyses of organically paralyzed nerves are to be regarded in part as functional fixations of a mild healed organic paralysis. The alcoholic form of hysteria plays only a minor role. The shell explosion neuroses are purely functional. Long continued loss of consciousness does not militate against this conception. Even after the lapse of many months these patients may be cured by suggestion, particularly hypnotic suggestion, and in the hypnotic state the symptoms may be reproduced accurately. Acute and chronic psychic traumas may cause these cases, without any existing organic changes in the central nervous system. The pretraumatic state does play a role in the etiology of these cases. It is noteworthy that the same clinical picture is often seen following infectious diseases and other acute internal disturbances.

The prognosis of these war neuroses does not differ from that of the neuroses seen in civil life. The therapy is the same for both conditions, psychotherapy being most effective. Hypnotic suggestion is of great value. Much remains to be done in clearing up the prophylaxis as well as the prevention of recurrences of these neuroses.

Gaupp, like Nonne, was opposed to Oppenheim. He does not believe in the existence of a special or particular war neurosis, or a traumatic neurosis. The German is less susceptible to these conditions than the Slav or Roumanian. There is some difference in susceptibility among the various peoples of Germany. The symptomatology is practically the same everywhere, as is also the etiology, namely, fatigue and exhaustion of the nervous system, physical and psychic disturbances, neurasthenia, general reduction of body resistance, exhaustion of individual organs, heart, vasomotor and gastric neurosis, etc. Infection, alcoholism and nicotinism have an etiologic significance, and the degree of individual resistance, psychic as well as physical, determines the severity of the case. The existence of pathognomonic symptoms, such as headache, dizziness, insomnia, tachycardia, increased reflexes and mental depression, is denied. Acute psychic or physical trauma does not produce neurasthenia in a well man, but a man who is exhausted will easily fall a victim. The similarity in the clinical picture of the fright neuroses is noteworthy, especially when they follow severe acute shock of any kind (mine explosions, shell explosions, shell wounds and bullet scalp wounds), and after sub-acute psychic disturbances (mustering in, drilling, called to the front, initial experience in the trenches, command to attack, and seeing severely wounded or dead friends or comrades). The effect of mechanical shock, such as a shell explosion, is often over-estimated. The explosion usually is not an unexpected one, and therefore, the psychic effect cannot be as great as it often is said to be. A warning of an impending explosion is given by the sound made by the traveling missile, and the soldier frequently can seek timely shelter. A state of fear-thought and a resulting loss of consciousness usually precede the occurrence of the explosion. The unconsciousness is often a psychic manifestation rather than a mechanical cerebral commotion. The majority of the clinical pictures are purely psychogenic. There may be a temporary fright neurotic complex which disappears rapidly (tremor, weakness of the legs, difficulty of speech, laughing, weeping and apathy). The difference between a fright neurosis and hysteria is wholly a matter of definition. Akinesia amnestica, reflex paralysis and myotonoclonia trepidans are psychogenic disturbances. In hysteria all grades of paralysis occur. Victims of war neuroses usually are not taken from among the wounded, contrary to Oppenheim's statement. They seldom occur among prisoners even when they have been shocked severely. Prisoners are actuated by one great desire; to remain well so that when they are exchanged they may return home in good health.

The symptoms of acute psychogenic disturbances are manifold, and pre-existing disturbances are frequently made worse. The symptoms are not improved by errors in diagnosis and wrong treatment with orthopedic apparatus. The so-called "commotion neurosis" is not a neurosis at all, but an organic cerebral disease. The clinical symptoms of mild cases frequently cannot be distinguished from neurasthenia and hysteria. Imbecility, sclerosis, beginning dementia praecox and similar mental states frequently pave the way for psychogenic disturbances. The question of simulation or malingering cannot be discussed at this time. Perhaps we are not paying enough attention to this phase. The prognosis of all these war neuroses depends largely on the previous personality of the individual. Many forms of therapy are applicable.

The majority of those participating in the discussion agreed with Nonne and Gaupp without in any way influencing Oppenheim in his beliefs. He is convinced that there is an increase in the number of cases of hysteria among the wounded, and he insists that this clinical entity be considered in the granting of pensions. On the other hand, he does not believe that all war neuroses are of psychogenic origin. The war does more than make a fleeting impression on body and mind. The nervous system is severely affected, and perhaps permanently. He sounded a note of warning, asking every one not to look lightly on these war neuroses, and to guard against making a diagnosis of hysteria or neurasthenia, or

even simulation. Furthermore, granting that there are individuals who do simulate, it must be borne in mind that even they may be ill.

Bost. med. and surg. j. 175: 805–06, Nov. 30, 1916. Acute Psychoses of War (Editorial)

It may be accepted without necessity for verification that the intense emotional strain associated with warfare causes acute exacerbations of some of the milder psychotic and borderland cases which were able to get along unnoticed under the less stringent requirements of civil life. Thus, cases of arrested dementia praecox, the neuroses and psychoneuroses, cyclothymia and high-grade imbecility may all be found among recruits who have been mustered in without any suspicion that such conditions existed.

Dr. Arturo Morselli, consulting neurologist to the First Army of Italy, in a lecture to the Royal Medical Academy of Genoa, classified the mental cases which he believed originated directly from the emotional excitement of battle into seven kinds, all of which he thinks have a basis of "asthenia." The term is, of course, extremely general in its English connotations. These varieties of mental disorder he gives as acute asthenia, hysteria, depression, stupor, hallucinations, confusional states and maniacal excitement. Probably, according to the American method of classifying mental disease, we should call the first two of these conditions psychoneuroses. The depression and the excitement we should expect to find in individuals of a manic-depressive make-up, that is, the extroverted type, while the introverted type would show the stupors and the confusional states. Morselli speaks of transient hallucinations, which, of course, may arise in persons with feeble psychic resistances, that is, imbeciles, psychopaths and constitutional inferiors, from stimuli inadequate to others normally constituted—small amounts of alcohol, slight infections, mild fevers, abstention from food for short periods, and unusual emotional stress.

The modern idea of such deviations from the normal is that they are the expression of an underlying biological defect. To the experienced observer, such cases would not, as a rule, give rise to any great difficulty in diagnosis when they presented themselves for enlistment. The life history, as given by the applicant himself, is very suggestive to the alienist; his record with the Binet-Simon, Yerkes-Bridges, Healy, Fernald and other tests, his neurological examination, all supplemented by several days' observation of him, might result in the elimination of much rotten timber which later on becomes a problem to the army in the field.

The solution which suggests itself is to have a trained psychiatrist available for consultation at every recruiting station, especially in times of war.

Bost. med. and surg. j. 175: 803–04, Nov. 30, 1916. Need for Psychiatrists in the Army and Navy (Editorial)

In all the talk of preparedness it should not be forgotten that the medical branch of our military organization should be so equipped as to be able to meet any demands upon it, especially those demands arising out of the peculiarly stressful conditions incident to actual warfare. Of course we are accustomed to think of the army or navy doctor as first of all a surgeon. He must be capable of handling the cases as they come from the front—the gunshot wounds, the bayonet stabs, the burns and the broken bones. Stationed at a lonely post in time of peace, far away from any civilian physician, he must be prepared for any emergency—to reduce a dislocated shoulder, to operate upon a strangulated hernia or a gangrenous appendix.

To their credit be it said that the personnel of the medical branch of our service is composed of men who are amply equipped, not only as surgeons, but as internists. When we consider that every one of them has had, besides his four-year

medical course, a year, at least, in a general hospital and a year of postgraduate work in the Army or Navy Medical College, their high average of efficiency is explained. And yet there is one branch of medicine which it would seem should be recognized as too complex and too important to be left entirely to men who necessarily must be able to give only a small part of their studies to it. We refer to mental disease. It is hardly possible for the army or navy surgeon, speaking generally, to acquire a sufficient knowledge of psychiatry to do justice to such cases of mental disorder as develop naturally and sporadically under service conditions or burst into being endemically under the nervous strain of battles. The frequency of mental disease among soldiers and sailors, as well as the necessity for its adequate study, is becoming appreciated and has been written on by Bouchard, Granjux, Hanry, and Rayneau in France; Borovikoff in Russia; Schultze and Heuse in Germany; and White, Richards, Smith, King, Woodson and Sheehan in the United States. It has been only comparatively recently, however, that the necessity for establishing a field hospital for the care of such cases has been understood. The first hospital of this kind was organized in Harbin during the Russo-Japanese War.

The desirability of having their medical officers better equipped for the handling of such cases is, at present, recognized by both branches of the service; and at the Government Hospital for the Insane every winter the Superintendent, Dr. White, gives a series of lectures to the members of the Army and Navy Medical Colleges. Also it has been the custom for some years past to detail one man from each service at the Government Hospital for the Insane, to study mental disorder for two years at a time. An officer recently detailed there, Capt. Edgar King, has published an interesting account of his studies of mental disease in soldiers. In this, among other things, he calls attention to the fact that one-fifth of all soldiers discharged are discharged on account of mental disability.

But striking as is the prevalence of mental disease among our soldiers and sailors in times of peace, we must remember that this would be greatly increased during war. Such, at least, has been the experience of the nations now in conflict, as evidenced by the many reports of mental and nervous affections which reach the medical press. Injuries of the central nervous system, due to the wind of explosives, hysterical aboulias developing in the heat of battle, hypomaniacal outbursts in protracted battles, nerve injuries by missiles, malingering of mental symptoms to escape active service, hypochondriasis and neurasthenia in recruits—all these and many more will call for the intervention of the trained neurologist and psychiatrist. As White says, "A man may be quite able to get along all right—in fact, to perform his duties with marked efficiency in time of peace,—who would break completely under the stress of war. This has long been realized as true of the physical, but we must begin now to realize it as equally true of the mental, especially as the game of war comes more and more to be played with brains."

Régis, E. Psychic and Neuropsychic Affections in War. . . . tr. in Bost. med. and surg. j. 175: 784–92, Nov. 30, 1916

In regard to the psychoses and neuropsychoses of war, "among the principal points emphasized by the Russian psychiatrists, such as Jacoby, Chaikewitch, Serge, Soukhanoff, Oreretzkowsky, Vladitchke, Ermakoff, Awtokratow, and Cygielotrejch, or by the English, such as Stewart and Kay, may be cited: First, the great frequency in modern wars of cases of psychoses and psychoneuroses—a frequency such that the Russians had to establish at Kharbine and at Moukden in Manchuria, psychiatric hospitals. Second, the predominance of acute, often transitory, psychoses and neuropsychoses clinically analogous to those resulting from severe accidents. Third, the particular multiplicity of cases of this sort following maritime battles. Fourth, the necessity of psychiatric care for armies on campaign, consisting of improvised hospitals in regions sufficiently remote from the base of operations and from the passage of troops."

The author agrees with Jacoby from the nosologic point of view on the fundamental characteristic that the suddenness, extent and horror of the modern battle act as "cosmic catastrophes" causing epidemics of psychic disturbance. Two of Régis's pupils, Laures and Hesnard, have published observations concerning this theory. The author upholds Jacoby also as to the value of organizing a special psychiatric service in case of war.

"The solution adopted by Russia, of special hospitals for the insane improvised at sufficient distances from the field of operations, is certainly the best. In case of need, even special pavilions annexed to ordinary field hospitals would suffice, on condition that their medical direction was entrusted to specialists. The psychoneuroses or psychoses from moral shock, which predominate in great cataclysms and great battles are, in fact, in the large majority of cases, essentially acute, transitory, and curable in a few days. On the other hand, no treatment is better suited to the acute psychoses of all forms than rest in bed. . . . These pavilions would serve at the same time for the traumatic insane and for the postoperative, who would evidently be more numerous in the circumstances of which we speak.

"It is an organization of this sort which Professor Simonin of Val de Grâce also recently urged in his conference of December 13, 1912, with the federal union of reserve and territorial physicians, on psychoses of wartime and psychiatric aid in the field." Among authorities who have written works on this subject the author mentions his colleague, Tactet, Stier of Berlin, Drastich of Vienna, and Kay of Bristol.

From August 1914, Dr. Pouchet, director of the health service of the eighteenth district, established a central psychiatric service for the care of mentally and nervously disturbed soldiers at the military hospital at Bordeaux under the direction of Dr. Salesses.

Cases observed up to December 31, 1914, to the number of 150, may be divided into two classes: First, psychoses in soldiers who have not been under fire, of which there were sixty-two. Second, psychoses and neuropsychoses of soldiers returning from the front and induced by battle. Of these there were eighty-eight.

Hallucinatory oneirism, or morbid dreaming, caused by emotional shock and only temporary in action, never lasting more than two weeks, accompanies all cases affected with psychic or neuropsychic disturbances following battle. Since the declaration of war, hallucinatory oneirisms of battle have appeared also among alcoholics who have remained at home or at garrisons.

The other predominant syndrome in the psychic disturbances in question is that of mental confusion. It is of sudden onset, not usually of long duration, and its essential characteristic is amnesia, usually total. This condition may be accompanied by the most vivid and agonizing recollection of the event that produced the shock, a fixed idea by day and a terrifying hallucination by night reproducing itself always during sleep.

The predisposition in patients affected with mental confusion and hallucinatory oneirism is not an hereditary one. The hereditarily disposed are usually weeded out by their predisposition before the firing line is reached. A true emotional constitution is the particular predisposition for the psychoses of battle. Neither is the physical traumatism the occasioning cause. Of fifty patients, twenty-two had been wounded and twenty-eight had not. Other causes, besides this principal one of violent emotional shock in impressionable individuals of a nervous temperament, are physical and moral fatigue, long marches, perpetual alertness, insomnia, and prolonged inactivity in the trenches. It is an interesting fact that these psychoses affect preferably men of the reserve, and are most intense, especially in the amnesic form, in officers.

The important point in diagnosis consists in differentiating these psychoses of battle from the ordinary psychoses, or manias. Cases of psychoses of battle are usually of a transitory nature, and should not be considered as cause for

commitment to an institution, but should be treated by a military psychiatric service established at the seat of each division of the health service. These, like the delirious wards existing at Bordeaux and Paris, and those established in 1900 in the marine hospitals, should be composed primarily of several cubicles or isolation chambers for the violent, and an open ward for the calm and inoffensive. These, especially the cubicles, should be on the ground floor and near together. This central service should receive not only subjects from the military hospitals, but also those from the temporary and auxiliary hospitals of the city and of the neighboring regions. The wounded in need of psychiatric treatment may, according to the nature and degree of their psychic disturbance, remain in the surgical wards, or go to the psychiatric centre and have their wounds dressed there by the hospital surgeons. "It is indispensable to entrust the psychiatric service to a specialist, supported by at least one assistant and by a competent personnel of attendants whom he shall train. . . . The function of the physician in these regional centres of psychiatry is at once delicate and manifold. It consists essentially first in receiving all soldiers afflicted with disturbances predominantly psychic, observing them, and establishing a diagnosis at once rapid and exact; second, in referring without delay to the neighboring insane asylum those affected by mania, . . . third, in treating and curing as quickly as possible those capable of rejoining their commands in a few weeks, and in forming on the other hand a suitable decision in the cases of those more severely affected, particularly those presenting confusional associations." Delirium caused by acute infectious disease must be carefully differentiated from insanity by employing every measure of diagnosis, physical as well as mental. "It is obvious that the specialist in charge of the central psychiatric service should, at the same time, fulfill the functions of expert in the war council of the region, these functions being in time of war more important and active than ever. It is thus that affairs have been organized at Bordeaux since the beginning of hostilities."

Closely related to the psychic disturbances are epilepsy which is rare; neurasthenia more frequent, especially among officers; hysteria presenting the most varied, unusual and peculiar cases—syndromes of terror, trepidation, spasm, tic, convulsions, impotence, anesthesia, paralysis, urinary incontinence, blindness, deafness, mutism, somnolence, delirium, sometimes transitory and disappearing at the least suggestion, sometimes tenacious and resistant to the highest degree. One of the most frequent of these is the syndrome of functional paraplegia or pseudoparaplegia. Observations were made at the suggestion of Inspector, General Delorme in temporary hospitals numbers 4 and 78, directed by Drs. Bergonie and La Grange. Patients first have more or less disability of the legs, cutaneous sensibility is more or less diminished, especially in the lower extremities, reflexes are variable, and there are usually headache and variable pains. The cause is undoubtedly violent emotional shock. No sign of organic lesion was observed in the cases studied, hence we may draw the conclusion that the malady is purely functional and develops only in predisposed subjects. Others who have studied and reported cases of functional paraplegia are Dejerine, Babinski, Sollier, Moulinier, Drivet and Bernadou.

Journal of Amer. med. assoc. 68: 473, Feb. 10, 1917. Neurosis and Nationality (Berlin Letter, Dec. 4, 1916)

In a recent number of the *Wiener klinische Wochenschrift*, Dr. Schneider discussed the predisposition of various nationalities to diseases of the nervous system, basing his remarks on observations made on Austro-Hungarian soldiers. He found that the Magyars, the Roumanians and the Czechs were particularly predisposed to severe nervous disturbances as the result of their war experience. The Poles and German-Austrians occupy the middle ground, whereas the Jew shows a strong predisposition to these diseases. From the literature the impression is gained that nationality and race play a considerable role in the

etiology of functional nervous disturbances, especially of the hysterical type. While Schneider's observations confirm these impressions, the result was not quite what the literature would lead one to expect. The Poles, for instance, show a predisposition to severe nervous disturbances of all kinds. However, the percentage of persons so affected corresponds with the average of all nations (about 12 per cent). All the remaining Slavs, excepting the Czechs, show a much lower percentage. A proper conception of the percentages given by Schneider can be gained by considering only those nationalities which were represented by more than 100 patients. These were the German-Austrians, the Czechs and the Magyars. The Poles were represented by eighty-one cases, too few to permit of drawing definite conclusions. All disturbances of the nervous system occurring among the first three nationalities mentioned above were as follows: Among 377 Germans there were thirty-three cases (9 per cent); among 194 Czechs there were thirty cases (15 per cent), and among 199 Magyars there were thirteen cases (6.5 per cent). There were seven cases of ambulatory war neuroses, all occurring among the Czechs who, on the whole, seem to be particularly predisposed to traumatic hysteria. About 40 per cent of the Jews had nervous disturbances, mostly mild in type, with complete recovery and rarely exhibiting hysterical symptoms. Of the Roumanians, 21 per cent were affected, and of the Germans only 13 per cent; of the Ruthenians and southern Slavs, 11 per cent. A strong predisposition to the apathetic depressive nervous diseases was noted among the Roumanian soldiers, such cases occurring even when the troops were on the march.

N. Y. med. j. 104: 1251, Dec. 23, 1916. War and Psychanalysis (Editorial)

Many interesting revelations in the domain of functional nervous disorders have been disclosed by the present European war. In the first place, the old dictum that nervous conditions do not manifest themselves externally has been verified by the large number of neurotic candidates that passed the physical examination only to break down under the first severe strain in the training camps or trenches. It is quite evident that only men with strong constitutions are fit for the mental and moral shocks of war. Another important observation derived from a survey of the nervous victims is the realization that modern warfare imposes tremendous nervous tension and mental strain, so that adequate provision should be made to take care of all the neuropaths. This is a phase of preparedness that we should do well to keep in mind, and in which we may profit by the experience of others. Finally some interesting light has been gained from the war concerning Freud's theories of the psychoneuroses, and the value of psychanalysis as a form of mental training. The severe demands of war and the rigid discipline of military training have quickened the instinctive emotions and transformed the repressed energies into great and heroic bravery. Suppressed desires and buried complexes may be factors in the blight of overcivilization, but in time of war these primal instincts find an outlet for themselves in the call of duty and patriotism. However helpful psychanalysis may be in time of peace, in time of war such methods appear unnecessary and undesirable. In fact, the conviction is forced on us that well directed discipline is superior to psychanalysis at all times, and that personal development and happiness cannot be divorced from self-sacrifice. It is fair to assume that some of the concepts regarding the fixation of the libido, and the correct psychanalytical treatment will be greatly influenced by the experiences of the war.

Thomas, John Jenks. Types of Neurological Cases Seen at a Base Hospital. J. of nerv. and ment. dis. 44: 495–502, Dec. 1916

Dr. Thomas was for a short time in charge of the medical division of the English Base Hospital in France, given over to the care of the first unit sent out by

Harvard University. He had also opportunities for seeing and hearing of the work in other war hospitals through Sir William Osler, Dr. Gordon Holmes and Dr. Colin Russell. After giving several case histories of wounds of the nerve trunks, spinal cord and brain, Dr. Thomas discusses various forms of functional nervous troubles as observed by him. Among these were cases of hysterical paraplegia, amblyopia and aphasia, and of neurasthenia and shock. In describing the symptoms of such cases he says: "The most frequent type which was seen at our hospital presented a syndrome of symptoms that varied a good deal in individual cases, and yet in general presented certain symptoms pretty consistently. The most frequent symptoms observed were a rapid and easily accelerated pulse, a rather rapid, coarse tremor, which frequently affected the trunk and head as well as the extremities, and marked susceptibility to fatigue. These cases showed no evidence of a cardiac lesion of any sort, either by the presence of fibrillation, or extra systolies, nor any distinct arythmia or enlargement. In short, the entire physical examination was persistently negative except for the rapid pulse, which was rarely above 140. We never found any enlargement of the thyroid gland, no exopthalmos, nor much disturbance of the vasomotor system. Occasionally, however, sweating was present in rather too marked a degree upon excitement or exercise. Quite often, too, there was found a marked vasomotor skin reaction, with the white line bounded by two reddened ones, but without much edema, following quickly upon irritation of the skin by stroking briskly with a pointed object. This reaction was generally rather persistent, frequently lasting twenty minutes before fading. This vasomotor reaction, however, was by no means constant, and was missing in fully a third or more of these cases. I may add that in these cases we never found either the physical or mental stigmata of hysteria."

Hunt, J. Ramsay. Shell Shock. Internatl. med. annual 34: 512–14, 1916. References

Brief summaries of some of the important articles on shell shock published 1914–1915. Among those quoted are W. A. Turner, Fiessinger, T. R. Elliott, Myers, Grasset, Roussy, Ravaut, and W. F. Stevenson.

McDowell, R. W. Diseases Incident to Submarine Duty: Nervous Complaints. U. S. naval med. bull. 11:49, Jan. 1917

Nervous complaints are numerous and varied. While seasickness is rare on the battleships it is not uncommon in the submarine service. It is not considered as disgraceful on a submarine as it is on a battleship. When one considers that these 300-ton boats go to sea in all kinds of weather it is not surprising that there should occur occasionally a case of seasickness. All hatches must be battened down even when running on the surface, except in the very smoothest water, and the lack of fresh air is also a causative factor. The men who can stay on deck rarely become seasick.

Nostalgia and neurasthenia are occasionally seen in men whose nervous systems are not strong enough to withstand the hardships of the arduous duty with the submarines.

The writer has seen two cases of claustrophobia in the submarine service in the past two years. In each case the man was seized with the most uncontrollable terror of the closed space when the boat was being submerged. The mental suffering and anguish of these cases is pitiable. One case which I very carefully studied recently was that of a man who had a splendid service record, had been in the navy for over eight years, most of it on the battleships and destroyers, was an able machinist, and certainly not a physical or a moral coward. When he went out on the submarine for a drive he would begin to show signs of restlessness as soon as the boat shoved off from the dock, and as the boat began to sub-

merge he exhibited signs of fear which he tried manfully to control. Perspiration ran from him, his pulse jumped to 150 or 160 per minute, his pupils dilated, respiration became rapid, and he became so excited and confused that not only was he not to be depended upon, but was actually a dangerous man in the boat. Once he lapsed into unconsciousness.

He was at first encouraged by mental suggestions and all hands tried to stimulate him and keep his thoughts on other things, but without result, and he would feel this terrible oppression coming over him. He could not get enough air and his "throat closed up" and his "lungs felt as if they were being squeezed in a vise." The treatment was of no avail and he was transferred from the submarine duty to a battleship, where he has been in good health. When these cases are transferred to a large ship they invariably and immediately improve.

Med. rec. 91: 332, Feb. 24, 1917. Military Causes of Psychopathic States (Editorial)

These causes may be summed up under exhaustion and emotion. Clinical types include purely physical exhaustion, acute nervous exhaustion, exhaustion psychoses—this includes premature onset of progressive paralysis. At a meeting of the German Psychiatric Society held last September (*Berliner klinische Wochenschrift*, October 30) Bonhöffer stated that purely physical exhaustion was well shown by Serbian prisoners. The condition was as follows: extreme emaciation, diffuse muscular atrophy, dilated heart with edema of the lower extremities, extreme weakness (many were bedridden for months), increased morbidity and mortality, tendency to tuberculosis, phlegmons which healed with difficulty, and general inability to recuperate. In acute nervous exhaustion the patients are somnolent, morose, and in a condition of emotional weakness. True war psychoses have not been shown to exist, but under the stress of war lues seems to locate often in the central nervous system. Manic depressive insanity and dementia precox show no increase. Mobilization causes a reaction in psychopaths and thus facilitates weeding them out. Depressed psychopaths become more depressed. Fright psychoses occur in the army as they do in civil life. As a general proposition the sound brain of the soldier has shown itself highly resistant to war insults. The alleged emotionally unstable Frenchman and the downtrodden Serb actually present fewer cases of psychopathic reaction than the men of any other country.

Journal of Amer. med. assoc. 68: 792–93, March 10, 1917. War Neurosis causing Grave Diagnostic Error

Dr. G. Lian has published observations which were made on a soldier sent to a hospital with a disease diagnosed as "serious cardiac trouble (incapable of ever rendering further service in the army)." The striking symptom of this patient was a rolling, heaving movement of the body which threw forward the left hypogastric region and the left side of the chest while retracing the left clavicle, accompanied by spasmodic contractions of the muscles of the left anterior half of the thorax. A thorough clinical examination revealed the fact that there was no definite connection between this body movement and the regular radial pulse (25 respirations to 18 radial pulse beats). The patient suffers with insomnia, headache, tremors, mydriasis, and an exaggeration of the tendon reflexes. These symptoms appeared during a four days' bombardment in October, 1914. This disease, then, is not a grave cardiac disease, but a severe neurosis, a so-called war neurosis, the principal manifestation of which is a rhythmic, spasmodic contraction of the muscles of the left anterior half of the thorax.

Journal of Amer. med. assoc. 68: 1274, April 28, 1917. Lunacy and the War; Decrease in the Number of the Insane (London Letter)

The official report for the year 1915 states that, January 1, 1916, the number of notified insane persons under care in England and Wales was 137,188, being less than that recorded, January 1, 1915, by 3,278. This decrease may be contrasted with an increase of 2,411 recorded for the year 1914, and an average annual increase for the ten years ended December 31, 1914, amounting to 2,251. Thus if that average rate had been maintained during 1915, the number under care, January 1, 1916, would have been 142,717, or 5,529 above the actual record. It is noteworthy that this is the first occasion since reliable statistics have been available (since 1859) on which there has been a decrease in the numbers under care as compared with those of the preceding year. Except in 1885, 1886 and 1890, when such increase amounted to 452, 735 and 728, respectively, the numbers have been nearer 2,000 than 1,000, and since 1893 above the former figure, in all but four years, a maximum yearly increase of 3,235 being recorded in 1904. It is natural, therefore, to infer that the diminution bears some relation to exceptional conditions—social and economic—arising from the war. The admissions during the year were 21,173, or 2,055 below the number recorded in 1914, and of these, 17,710 were first admissions being 547 below the decennial mean. The report suggests that as the decrease coincides with altered conditions arising from the war, an explanation might perhaps be found in a diminution of insanity owing (1) to the withdrawal from civil occupations of a large proportion of the male population; (2) in the great call for employment by both sexes alike, and (3) the increase in material prosperity afforded thereby. On the other hand, it is remarked that the direct and indirect effects of war in disturbing mental balance in those actively engaged in it, and the stress of anxiety and sorrow experienced by those at home are not to be ignored. These and certain other considerations, however, are regarded at this juncture as too speculative to be given much weight.

Med. rec. 91: 724, April 28, 1917. Mental Strain Produced by Internment (Miscellany)

A telegram from Berlin has stated that 1 in 10,000 of all prisoners of war in Germany have committed suicide. Dr. zum Busch has reproached the English methods for the frequent mental breakdown of the interned German civilian in England. The *Lancet* suggests that this result may have been influenced by the mental state and equipment of the prisoners, as well as by the conditions of their confinement. Dr. Herbert Bury, Bishop for North and Central Europe, stated that on a recent visit to Ruhleben he found no evidence of ennui or mental breakdown among the large population there, and that only from sixty to seventy cases of mental conditions were the product of two years' confinement, these being isolated in a sanatorium half an hour distant from the internment camp under the supervision of Dr. Weiler, a well-known alienist. This admirable result is attributed by Dr. Bury to the splendid spirit of the interned men, as well as to the measures taken to stimulate their mental life. Regular classes in different courses are held, and there is a well-equipped biological laboratory and scientific workroom. The *Lancet* remarks that the conditions at present existing are in marked contrast to the terrible mental depression once found at Gardelegen and Wittenberg as a result of hardship, idleness, and ennui.

Farrar, Clarence B. War and Neurosis, with Some Observations of Canadian Expeditionary Force. Amer. j. of insanity 73: 693–719, April 1917

Farrar gives a resumé of provisions in Canada for the handling and treatment of invalided soldiers. All mental cases except those diagnosed as chronic

or hopeless, or those mild enough to need simply rest for treatment, are sent to the Ontario Military Hospital at Cobourg on Lake Ontario. During the first six months of its operation about 150 patients were treated at this institution. An analysis of population, February 1, 1917 (50 cases), gave the following results:

	Cases	*Per cent*
Fairly definite types of dementia praecox	17	34
Psychopathic inferiority, morons, etc	6	12
Defectives belonging to either of the preceding groups	4	8
Dementia paralytica	6	12
Shell shock or trench neurosis	6	12
Other neurotic reactions	3	6
Alcohol as a dominant factor	2	4
Manic reaction	2	4
Depressive reaction	1	2
Epilepsy	1	2
Trephine epileptoid	1	2
Paranoid	1	2

"Such an analysis," the author says, "can only be approximately correct. Observation has been insufficient for a final diagnosis in certain cases. . . . Moreover, a considerable number of cases require a multiple diagnosis."

In summarizing his conclusions Farrar says:

"(1) Cases with gross lesions of nervous tissue, peripheral or central, present questions essentially surgical and neurological. Specific psychotic symptoms do not, as a rule, accompany them. In particular, such lesions do not give rise to the so-called traumatic neuroses.

(2) Apparently any individual of sound constitution and inheritance may at the front exhibit minor, transitory neurotic symptoms which are strictly reactive and may be classed as physiologic.

(3) That severe war neuroses may also, under certain circumstances, develop in persons apparently quite normal has been asserted by competent observers; but the concept of normal is so elastic that a definitive answer to this question may never be forthcoming.

(4) It remains true, however, that in the majority of severe war neuroses of all types there is evidence of a personal element of psychopathic potential.

(5) The factor of exhaustion may lead to collapse or to acute transitory fatigue states, and, if severe and protracted, to progressive physical deterioration. War experience has not established its etiologic importance in the neuroses and psychoses.

(6) Psychic disturbances among troops may be, (a) accidental, *i. e.*, such as occur in the community generally and cannot be attributed to service, and (b) reactive, those which stand in some specific relation to the conditions of army life.

(7) The reactive group is made up essentially of psychoneuroses, which may be divided epochally into (1) anticipatory neuroses, and (2) trench neuroses.

(8) The type of the trench neurosis is the condition called "shell shock," which usually consists of a transitory concussion syndrome followed by a more or less protracted neurotic phase.

(9) Trench neuroses occur usually in unwounded soldiers. There is no satisfactory evidence that trauma plays any part in their causation. There are well-qualified observers who hold that as a result of contemporary military experience, the concept of the so-called traumatic neuroses should be abolished.

(10) The drift of opinion is unmistakably toward the psychogenic basis of war neuroses of all types, including shell shock. Even in an initial unconsciousness or twilight state of some duration there is evidence that the psychogenic element may have as great if not a greater role than the item of mechanical shock, although this is also important.

(11) Clinically the trench neuroses present in the main hysteric and depressive-neurasthenic syndromes or combinations thereof. In this sense therefore there is nothing specific or new about them.

(12) Their distinctive character resides in the fact that the precipitating causes are unique and strongly color the symptom pictures; further in the conspicuous reactive motor phenomena and in the more or less specific ideogenic moments."

Welch, W. H. Medical Problems of the War. Bull. of Johns Hopkins hosp. 28: 154–58, April 1917

"The Maudsley Hospital is entirely for the reception of cases of so-called shell-shock. I don't think there is any group of cases so pathetic as these. I saw a ward with perhaps twenty-five soldiers, who were all victims of this terrible condition. They stand up when the physician makes his rounds. Most of them had continuous tremor with staring eyes, a look of terror, and blue, cold extremities. When examined they show various manifestations which we are not apt to attribute to hysteria. Some are deaf and dumb and some are dumb. The disorders of the special senses are most remarkable. The condition is described under various names, such as shell psychasthenia or shell neurasthenia, but it is commonly called shell-shock. So far as one can judge, they look on the whole to be rather inferior types both physically and mentally. I was told they were of the type that can not stand alcohol and were total abstainers in about 80 per cent of the cases. Two of the patients had never been wounded. There has been a good deal of discussion as to how many of the patients may be malingerers, and this has to be considered most carefully. There is no doubt an element of malingering in some of them, but it is impossible that the greater majority of them should be of this type. These conditions are tremendously interesting to the psychologist. I found Dr. Sherrington, of Oxford, devoting much attention to them. He called them disassociation of special senses. Meyer's view is that they are inhibitions from a tremendous disturbance of the consciousness of the personality of the individual, so that various nervous tracts are blocked for the time being. Some of the patients are treated by hypnotic suggestion with a good deal of success. Dr. Sherrington was telling me of a case in which the patient had been anesthetized and was cured by the anesthesia. Sometimes, when the patients go under the anesthetic, they regain their speech, and sometimes they begin to talk when they are coming out of it. Then they can continue to speak."

Howland, Goldwin W. Neuroses of Returned Soldiers. Amer. med., new series, 12: 313–19, May 1917

"The most striking feature in the nervous disorders of the soldiers . . . is the fact that the same symptoms repeat themselves with a persistency in case after case until one feels that the regularity almost tends to monotony . . ."

The cause of the neuroses in the majority of cases is nearby explosion of shells. A second group of cases are those who have been buried alive by the explosion of the shell. A third group have been exposed to much fighting and have been for some time under fire. A fourth group have had little trench strain, but are affected more in a "psychical" than in a "traumatic" way.

Howland states that, from discussions with medical officers who have served at the front, he has come to the conclusion that the cause of the trouble in the first two groups is "vibration and direct shock." In the third and fourth groups there are "true psychically produced cases, either due on the one hand to the prolonged mental strain, or on the other to fear." He thinks that the proportion of "true traumatics" in the Allied Armies is comparatively small.

He considers neurotic inheritance as only a minor factor, except in the case of real insanities, in true traumatic cases, and feels that, if the theory of vibration is correct, it need not be supported by the other idea.

Symptoms of typical shock cases are next discussed, first, as shown by increased irritability in the nervous system. These symptoms appear in bodily sensations, sleep and dreams, disturbances of memory and perception, emotional states, motor disturbances, pains in head and back, vaso-motor conditions, heart conditions, respiratory disturbances, and genitourinary affections.

Affections of disassociation are next taken up. These types are similar to those in civil practice. In this class are loss of memory, amblyopia and field retraction, deafness, forms of hysterical anesthesia and motor paralysis, and stammering.

"Hyperassociation," or the state in which the patient's psychical activities are focused upon one idea, is next discussed, and a typical case is described.

The writer concludes his review of symptoms with a discussion of "involuntary action," seen in old cases of dementia praecox, but chiefly in epileptics, thousands of whom have entered the service. He considers renewed epileptic attacks after years of cessation as due oftener to heavy work than to shell shock.

As to prognosis, he advises a quick return home for treatment rather than a stay in foreign hospitals for his experience has proved that the former means an earlier return to duty. The choice of the form of treatment must be governed by the individual case. He emphasizes the necessity of following up cases treated by hypnotism to prevent subsequent relapse.

This article, says the writer, is "not the history of shell shock in the field, but the tale of the returned soldier, who has passed through many hospitals, in the field, at the base, in England and France, and has finally been sent home as unfit and uncured."

Med. rec. 91: 1047, June 16, 1917. German Lunatics Make Poor Soldiers (Mil. med.)

The annual report of the lunatic asylum at Stettin, Germany, says an Associated Press dispatch, advises against the conscripting for service with the colors of any more of its inmates. "The asylums are proud," the report is quoted as saying, "that their inmates are allowed to serve the Fatherland, but the results have not been satisfactory because the lunatics have generally proved to be an unbearable nuisance in the various armies in which they have served, refusing to obey orders, deserting from their companies, and becoming vagrants." The report states also that owing to underfeeding the death rate of the institution has greatly increased.

Med. rec. 92: 254, Aug. 11, 1917. Mental Hygiene and Shell Shock (London Letter, July 14, 1917)

Dr. F. W. Mott devoted the Chadwick Lecture to the subject of "Mental Hygiene and Shell Shock," treating it in reference to the war, during and subsequently to that event. He applied the term to a group of varying signs and symptoms indicating loss of functions and to disorder of the functions of the central nervous system produced by exposure, either sudden or prolonged, to forces generated by high explosives. It may also be caused by cerebral or spinal concussion, though no injury be visible. Sandbags hurled from a distance and striking an individual on the head or spine have often furnished examples of this. Soldiers have sometimes suffered by the roof or wall of their dugout being blown in; others have themselves been driven by the force of an explosion against the wall or roof. The force generated by a 17-in. shell has been calculated as equal to 10,000 kilos per square meter, or 10 tons to a square yard, supporting in this the conclusion that death may occur as the result of aerial concussion pro-

duced by high explosives without any visible injury. Perhaps such death may be due to sudden arrest of the vital centers. The cerebro-spinal fluid restrains oscillation of both anterior and posterior cerebral roots as well as of the ligamentum dentatum. Consequently that fluid acts as a water jacket to the spinal cord and a water cushion to the base of the brain. This fluid not only surrounds the central nervous system, but it fills up the hollow spaces, the ventricles and the central canal, as well as all the interstices of the nervous tissues; consequently a strong enough shock to the fluid would affect the delicate colloidal structures of the living tissues of the brain and cord. This would occasion disordered function or even loss of function. The higher centers would most likely suffer first, and it is often difficult to determine the point. The lecturer called attention to another factor sometimes complicating shell shock. A soldier lying unconscious may be exposed to noxious gases generated by shells or mines. It is said that malingering as shell shock is not uncommon and detection of the fraud by no means easy, for a functional neurosis due to a fixed idea may be mistaken for that condition.

Bailey, Pearce. Psychiatry and the Army. Harper's monthly mag. 90: 251–57, July 1917

After contrasting the care exercised to exclude physical defectives from military services with the backwardness on the part of the same authorities, which existed until the recent establishment of psychiatric units, in realizing the importance of preventing enlistment of mentally defective and psychopathic individuals, Major Bailey emphasizes the importance of such precautions by quoting facts and statistics as to nervous and mental diseases in United States troops. He says: "The class of nervous and mental diseases of regular incidence in armies includes epilepsy, which during our Civil War occurred in four out of every 1,000 Union soldiers; chronic alcoholism and drug habits; delinquency, so frequently of mental origin and intimately connected with questions of discipline, especially as regards desertion, and in war-time, cowardice; and neurasthenia and hysteria, which show such a tremendous increase at the front. But, as insanity is the principal disorder concerning which statistics stand most ready to hand, it may be taken to serve as an index of frequency of the whole class.

"Insanity is the most frequent single cause of discharge for disability of enlisted men in our army, being nearly twice that of tuberculosis. It causes one-fifth of all disability discharges. Approximately one-third of all men invalided home from the Philippines in 1915 were invalided home for some mental disability, and of 474 discharged for disability during that year from the Letterman Hospital in San Francisco, the largest general military hospital, 125 were so discharged for mental alienation. On the list of diseases which cause the greatest amount of non-efficiency in the army, insanity holds the third place.

"The world over, insanity is rated as being approximately three times as frequent, even under peace conditions, in the army as in the civil community. Those who see nothing but evil in armies may construe this as proof that army life produces mental disease. But another explanation seems nearer the truth. It seems a more reasonable hypothesis that the army demonstrates constitutional incapacity and weakness rather than creates mental disease; that, under a service which requires a robuster mental stability than do some of the varied opportunities of civil life, slightly unbalanced persons, who might get along fairly well in a suitable civil capacity, are immediately detected as not fully fit for an army, and so are discharged from it. . . .

"The army rate of insanity, three to every 1,000, high as it seems, only remains at that level under peace conditions and only then when the troops stay at home. Foreign service causes it to go up, even in peace." Major Bailey explains the causes of these mental disturbances, which are based chiefly upon failure in

mental adaptation on the part of the individual to the new conditions of war time.

"The figures which show a threefold increase during war of a disability which strikes harder at military effectiveness than any other medical disability, are drawn from the cases of actual insanity only. . . . Among other conditions which, while not classified as insanity, are allied to it, both in causation and effects, are two well-known neuroses, neurasthenia and hysteria, . . . Armies have always had to contend with it (the latter) as the soldier's way of signifying his unwillingness to endure longer. . . .

"It can be shown that there is no physical interference with the nervous structures which preside over the lost function. The interference is not in the nerves but in the willing. . . . They are not curable, however, while the conditions under which they arose persist. They are only curable under a treatment primarily psychological, which more or less disregards the physical symptoms which are the most conspicuous features. Patients of this kind in civil life rarely, if ever, recover in general hospital wards, and in military hospitals they may be counted on to get worse, surrounded as they are by the physical disease which they copy. Such suggestive surroundings fix nervous symptoms of this kind rather than lift them. But under the routine of a hospital personnel and equipment especially organized for the purpose of combating abnormal mental trends, such patients do surprisingly well. . . . An English surgeon especially interested reports that he returns 36 per cent of such cases."

Shell shock cases have been extremely numerous in this war. They have overwhelmed both the French and English medical services. Major Bailey makes a brief statement of how the difficulty of caring for such patients was met by the military services of the above-mentioned countries.

The question of alcoholism, he says, is too comprehensive to be considered here.

"The scientific consideration of delinquency is inseparable from psychiatry, for it is being more and more firmly established that a considerable percentage of individuals who constantly break rules, who do not profit by punishment, who are in trouble over and over again for infractions of law, are mentally unsound. This mental unsoundness is sometimes due to actual disease of the brain, demonstrable physically, but more frequently is the result of a constitutional inability to find adaptation. Such disability may not appear from a direct examination of mentality, but becomes a conclusion from the persistence of a characteristic motiveless, abnormal behavior. Individuals with this disposition, the despair of philanthropists, do not profit by experience, however frequent or drastic it may be. It does not teach them. Nothing does. Every chronic military delinquent falls under the suspicion of being a person who cannot be courageous and cannot be taught to obey, because he is mentally incapable."

Major Bailey concludes his article by a statement of the ways in which military psychiatry may be applied in general to the welfare of the army as a whole and of the individuals composing it.

Goddard, Henry Herbert. Place of Intelligence in Modern Warfare. U. S. naval med. bull. 11: 283–89, July 1917

"The victories of war, no less than those of peace, are frequently due to the superior intelligence of the victor." Dr. Goddard elaborates this statement by showing how, in the present war, not only must the commanders manifest greater intelligence than ever before on account of the larger units involved and the greater obstacles to be overcome, but also the intelligence of the individual soldier is at a premium, not only in making efficient the elaborate machinery of modern warfare, but also in the heightened responsibility of the single man upon whom, in time of emergency, the safety of the whole group may depend. There-

fore the presence of the mental defective in military services is a real menace. A large proportion of this class of men will undoubtedly seek enlistment because they are attracted by the excitement and spectacular features of warfare, and also because they are not needed in their home communities.

Dr. Goddard then enumerates some of the difficulties of detecting the high-grade moron, and emphasizes the necessity of recognizing as accurately as possible the mental status of all enlisted men. They can then be fitted to various jobs according to their individual degrees of intelligence, whenever there are such jobs for them. Those who are not fit for military services should be eliminated before enlistment, and the first and surest way of doing this is rejection by the recruiting officer. "For this purpose the recruiting officer must either himself give a mental examination, or have some one at hand who is trained, to give such an examination. There is no question that a great many incompetents can thus be shut out at the very start without adding materially to the duties of the recruiting officer or seriously complicating the present examination. A few will get by. These must be detected by the officers when they come to drill and train them. One of the main things here is that every officer shall understand that *mental incompetency explains the action of the unsatisfactory recruit more often than any other cause;* perhaps more often than all the other causes put together. Schaffer has pointed out that the feebleminded in the German army are the objects of mistreatment at the hands of other soldiers; they are repeatedly in conflict with discipline and military laws; they are notoriously intolerant of alcohol, and when under its influence frequently commit military crimes; they are emotionally unstable and irritable, and especially characterized by unreasonable outbreaks of temper and assaults upon their superiors. If every officer could realize these facts, he would naturally take the attitude of suspecting mental defect in the case of every unsatisfactory recruit. His suspicions could then be confirmed, or removed, by more careful observation and study and by psychological or psychiatric examinations."

Dr. Goddard then outlines a procedure which he considers it feasible to use under these circumstances. The ideal procedure, he states, would be to have a psychological examiner at every recruiting station, but this is manifestly impossible, as there are not enough psychologists in the country to fill such a demand, and not all psychologists are practical examiners for mental defect. An alternative would be the use of a set of tests or a system of examinations by recruiting officers. This could no doubt be done with somewhat varying degrees of satisfaction. "There is, however, an intermediate procedure which might possibly prove feasible, and, if so, would undoubtedly be far more satisfactory. That would be to have the people who have been trained to make the examinations employed as inspectors or instructors of the recruiting officers. They could then go from one recruiting station to another and in a very short time give the officer such help or suggestion as he might need, to give him confidence in his own work, to inform him where he had not comprehended the method, or to correct such errors as he might have unwittingly fallen into. This would be a matter of a few hours, probably a half a day at most, at any one station."

Of course the great mass of the men to be examined would be passed without hesitation. Usually only a few general questions are necessary to show the officer that they are people of normal intelligence. A set of such questions could be easily formulated so that the normal men would be passed without delay and the doubtful and backward ones held up for further examination. Those who did not pass this preliminary examination could then be more carefully examined by one or more of the accepted series of tests. Dr. Goddard then gives the form of the scale for adults prepared from Terman's Stanford revision of the Binet scale, and also that of a much briefer scale prepared by Prof. Melville and tried out by him on a small group of recruits. Cases still doubtful could be supplemented by the Trabue completion test, the Porteus tests, or others.

Schier, A. R. Further Study of Mental Tests in the Examination of Recruits. U. S. naval med. bull. 11: 325–33, July 1917

"The following observations, based on the mental examination of applicants for enlistment at this station (Marine recruiting station, St. Paul) are submitted as a sequel to previous reports.* All men qualifying physically for enlistment have been examined by means of a series of ten mental tests previously described in the *U. S. Naval Medical Bulletin*. . . . The results of these examinations were marked in accordance with the following methods:

"(a) Number method, by which each successfully passed test has a value of one in the final score, and not less than seven successes are required for a passing mark.

"(b) Point method, by which success on a test or part thereof is scored by points, the number based on the relative difficulty of each test. The total number of points possible for the series is 100. According to the number of points scored men are classified into safe (A and B), doubtful (C), and mentally deficient (D) groups.

"As service undesirables are classed men who for various reasons prove unfit and undesirable, frequently becoming court-martial offenders, inmates of disciplinary barracks, prisons, and at times hospitals for the insane, and thereby cause much trouble and expense, they may be roughly divided into four classes, viz.:

"(a) Those who are ignorant or stupid, due to lack of, or defective, school training.

"(b) The feebleminded, who do not and cannot get on as a normal person should because of an arrested or imperfect cerebral development. Such men lack judgment, will power and comprehension of an individual's relation to his environment and are therefore not capable of getting on in the service. They are usually not recognized as mental weaklings until some delinquency brings them to the attention of those in authority.

"(c) Men who, through vicious training, have acquired pernicious ideas, in consequence of which they have an improper conception of patriotism, show disrespect for all authority and are indifferent to the sanctity of the oath which they have taken. Many of these individuals are intelligent and readily assent to general propositions concerning right and wrong. The application of discipline and restraint in the service being in conflict with their ideals, they find it impossible to fit in aright and either desert or are always in trouble.

"(d) Those who develop definite psychoses and are therefore not responsible for their actions and behavior.

"The classification is rather an arbitrary one. The dividing line between the various classes is not sharply defined, and they merge more or less into each other. To state with any degree of accuracy the number falling in each is not possible."

Schier next gives figures showing the close relation between delinquency and lack of education.

"The mental tests used in these examinations were devised for the purpose of detecting those undesirables who come in the first and second class. An extended experience with them has shown that the majority of those belonging to these types can be detected and could be excluded from the service if a uniform mental standard for enlistment were adopted. Men in the third and fourth class pass most or all of the tests in the series and their elimination cannot be brought about by any brief mental examination in the recruiting station."

In addition to those previously reported, 140 applicants were given the tests, and Schier gives statistics and tables of results.

*See Schier's previous articles in the U. S. naval med. bull. 9: 222–26, April 1915; 8: 247–58, April 1914, and 7: 345–60, July 1913. Abstracted p. 233, 224, 216.

"Further evidence of the correlation between success on the tests and service efficiency is furnished by results reported by Passed Assistant Surgeon G. E. Thomas, who applied the series to 100 marines and 300 prisoners at the naval prison, Portsmouth, N. H." A table showing these results and comparing them with the applicants examined by Schier is given.

"Investigations have shown that from twenty-five to thirty per cent of civil reformatory and prison inmates are feebleminded. Within the past few weeks fifty male prisoners at the Illinois State Penitentiary were examined mentally by Drs. Singer and Ordhal. Of this number fourteen (twenty-eight per cent) were found to be positively feebleminded. The mental condition of 300 prisoners confined in the Massachusetts State Prison was recently examined, with the result that twenty-two per cent were border-line cases and three and three tenths per cent probably psychotic." The number of failures among naval prisoners corresponds with the percentage of mental defectives found in similar civil institutions. Of the 300 naval prisoners examined fourteen and three tenths per cent had, previous to enlistment, been inmates of prisons and reformatories, and eighteen per cent of those failing had attended school two years or less. Loss by desertion and elopement en route to the recruit depot amount to eleven per cent of those successful by the number method. Loss from these same causes amounted to fifty-three per cent of those who failed.

Dementia praecox, the most frequent psychosis occurring in the service is often grafted upon feeblemindedness. It has been termed "pfropfhebephrenie" meaning "grafted hebephrenia . . . Of 890 feebleminded examined by Hickson, director of the Chicago Municipal Psychopathic Laboratory, eleven and four-tenths per cent were grafted hebephrenics. It is his belief that from fifteen to twenty-five per cent of the feebleminded in institutions are in reality dementia praecox cases of this type. He hopes to be able in the near future to show by means of visual memory tests . . . the peculiar mannerisms, stereotypy, disassociation, etc., of these praecox cases. . . .

"Because of the limited number of physically qualified men available for examination and the long time required to follow such men after they enter the service, efforts looking toward the establishment of a mental standard are handicapped in the recruiting station. A number sufficient for this purpose could be examined and the necessary observational study made at the training stations and recruit depots in a comparatively short time. The accuracy of the suggested mental standard, which is based on the results of the work done at this station, could be verified by the medical officers at the training stations and recruit depots from such further studies.

"In summing up, the following points may be emphasized:

(a) Service undesirables fall generally into one of four classes.

(b) The majority of those in two of these classes can be detected in the recruiting station by the systematic application of a series of mental tests and could be eliminated by a minimum mental requirement for enlistment.

(c) The standard fixed by the number method of scoring is more practical than the point method, because it definitely establishes a minimum requirement and by it fewer desirables and nearly the same number of undesirables would be disqualified.

(d) About 12 per cent of those who qualify physically and are ordinarily accepted fail to meet this requirement.

(e) Of those failing—substandards—about 82 per cent have been found unfit and undesirable for the service, 22 per cent because of positive feeblemindedness.

(f) Ninety-four per cent of those qualifying by the standard of seven successfully passed tests are reported as being of average to well above average efficiency and intelligence.

(g) This mental standard would disqualify about three and five-tenths per cent of such men who later prove efficient and desirable.

(h) Forty-one per cent of all undesirables in a series of 140 applicants examined failed to qualify by such a standard.

(i) Based on the number of failures among 300 naval prisoners to whom these tests were applied, such a mental requirement for enlistment would exclude about 30 per cent of those men who later find their way into naval prisons.

The five tables referred to in the text conclude the article.

Kenyon, Elmer L. The Stammerer and Army Service. J. of Amer. med. assoc. 69: 664–65, Aug. 25, 1917. Communication to the Editor

Apropos of Sir William Osler's warning concerning the acceptation of neurasthenics into the army, and of Dr. William Dewey's similar warning concerning the high grade feebleminded, it is well to consider also the stammerer in the same connection. In the creation of the new American Army, probably several thousand young men who stammer will present themselves for compulsory examination.

Apparently uncertainty and difference of view exist in the army itself as to the importance of this disorder to the soldier. One stammerer who has been under my observation was accepted into the local militia of a neighboring state, and later was sent to the Mexican border as a corporal; but, finding that he was very unreliable in his ability to speak the names of his men at roll call, he voluntarily resigned from the service. Another was accepted into the Marine Corps as a commissioned officer, but later was informed by the authorities that he could continue in the service only as a private. He resigned from the Marine Corps, and has since been doing a commissioned officer's training and similar duty for the army. Under treatment he has gained such control over his speech that he would not now at most times be suspected to be a stammerer, and yet at this time he is far from cured. Lately he has been accepted into an infantry officer's training camp. Another, a very marked stammerer, served in the regular army of the United States as a private for three years, but not in time of war. Still another was prevented by a wise father from presenting himself for enlistment in the Aviation Corps, because the father believed, probably rightly, that under the stress of this particularly nerve-racking service, his son "would go all to pieces."

Aside from the instances of stammering created by shell-shock or other forms of war excitement, one reads of the intensification of existing stammering by service in the war, and of the return of stammering that had previously been cured under treatment. Instances of improvement or cure in the war are not yet, and probably will not be, reported.

If one eliminates the occasional stammerer of the genuinely neurasthenic type who falls with increased emphasis in Dr. Osler's category of the militarily unfit, and also eliminates the occasional highly nervous, though not neurasthenic, stammerer, he has left the great body of the stammerers. These are in social relationships highly sensitive and highly emotional; they are usually of good mentality, and excepting for their stammering are not different from other individuals of the same type. Let it be recalled that the stammering phenomenon varies in degree from the lightest hesitation to a most serious spasmodic interference with speech movements. The very light stammerer might be accepted for any military service, at any rate until it became evident that the nervous stress of the military life did not increase his stammering.

With respect to the more profound stammerer, two characteristic facts are to be borne in mind. One is, that stammering is dependent on the particular emotional phenomena happening at any moment to be present in the stammerer's mind, and, therefore, that its manifestations may be wholly absent for hours at a time, but very severe at other times. This irregularity and

variableness in the manifestations of the phenomenon may cause entire misapprehension as to its seriousness in the individual case. At the time of the examination for admission to service, the stammering may be largely or even wholly in abeyance, and this is likely to lead to misunderstanding. The second characteristic is that the stammerer of severe type is liable at any moment to become wholly or partly unable to express himself. Since in war the instant giving of a command or the instant making of a report might be attended with great consequence, it is not difficult to understand the unfitness of the serious stammerer for commanding positions on the fighting line. Why might not the service of the serious stammerer best be rendered in a form of military service in which the lives of others were not immediately jeopardized by his inability to express himself, for example, in the commissary, or hospital, or similar service?

Journal of Amer. med. assoc. 69 : 1371, Oct. 20, 1917. Shell Shock Cases; the Disturbance in the Pupil Reactions After Shell Shock (Paris Letter, Sept. 6, 1917)

The report on the mental confusion cases among the men on active service was prepared in collaboration by Drs. Juquelier, Capgras and Bonhomme, and in an important summary of the subject, impossible to do justice to here, they called attention in particular to the following questions: (1) from the point of view of the etiology, the existence of cases of a purely commotional or emotional origin, without the influence of infection or intoxication; (2) the greater gravity of the prognosis in the commotional cases and their complication by sequelae, and (3) the importance of the sequelae, which may include psychoses and secondary psychoneuroses, among which are dementia praecox, masked epilepsy, the syndrome of hyperemotionalism and recurring conditions of oneirism, that is, dreamlike hallucinations while awake, etc.

The discussion bore mainly on points of detail. Dr. Delmas insisted on certain peculiarities of the war confusional state: its equal frequency in the wounded and the nonwounded; the importance among other sequelae of early dementia and the syndrome of hyperemotionalism, and the constant existence of a period of latency at the beginning of the "commotional confusion." Dr. Marie warned against the too early return to duty of the men thus afflicted; Dr. Meige, against errors of diagnosis between confusion and aphasia. Dr. Laignel-Lavastine emphasized the fact that emotional and concussional confusion are produced by a physiologic mechanism, the emotion generating the confusional state through the intermediation of the secretory disturbances which it induces.

At a recent session of the Académie de médecine, Dr. G. Guillain, agrégé professor at the Paris Faculté de médecine and hospital physician, and Dr. J. A. Barré called attention to the changes in the pupil reactions which they had noted in twenty-six cases of concussion from explosion of a large shell without external wound. Sometimes, at first, the pupils are abnormally dilated, and show no reaction to light or accommodation. Usually the mydriasis is of different degrees in the two eyes; sometimes on one side only, sometimes on both there is no response to light; sometimes there is an actual Argyll Robertson sign; in other cases there may be a paradoxical reaction to light. In some of the cases of shell shock the pupils may be merely unevenly dilated without modification of the motor reaction to light or to accommodation. These disturbances in the milder cases of shell shock do not cause much trouble. They are transient, as a rule, lasting from three to fifteen or twenty days and sometimes longer, but they gradually improve and finally disappear completely. They remarked that it is somewhat difficult to understand the pathogenesis of these pupil disturbances. In six of the men, they coexisted with xanthochromia in the cerebrospinal fluid and slight meningeal hemorrhage, but in the majority of cases there was complete absence of any sign of meningeal hemorrhage.

When there is a slight meningeal hemorrhage, it might be assumed that the cerebrospinal fluid had been rendered toxic by the products of hemolysis, and that this toxic influence had been felt by the fibers of the nerve roots, either on the centripetal or on the centrifugal path of the reflex, or else the small bacillary clots might have injured the fibers by compression. It seems also as if in many cases there may have been some direct peripheral source for the pupil anomalies, either from actual concussion of the retina or from some local concussion of the ciliary muscle or nerves under the influence of the explosion of the shell. Whatever their pathogenesis, these pupil modifications should be made known. They are by no means exceptional and their causal relations with the concussion seem to be evident.

[The French term *concussion* is used, by some strange twist of the language, exclusively to mean "graft," especially extortion by a public official. Consequently it is never applied, as in English, to denote the condition resulting from a violent shock. They use the term *commotion*, and men suffering from shell shock are called *les commotionés*.]

Craig, Maurice. The More Common Neuroses: Psychoneuroses Occurring in Men Exposed to Shell-Shock and Strain of War. In his Psychological medicine. Phil., Blakiston, 1917. p. 300–11

The writer leans toward the opinion that the original damage in shell shock is organic in nature, and that, later, so-called "functional" symptoms arise.

The most common disturbances found in shell shock cases are discussed. These are complete or partial loss of consciousness, with succeeding amnesia, dumbness, blindness or deafness, and sometimes speech defect, tinnitus, and hyperacusis; headaches; motor disturbances such as total or partial paralysis, hemiplegia, and a sense of weakness; tremor and paroxysms, which, to the untrained mind, may seem closely allied to malingering, if not actual malingering, of which latter the author believes there are only very few cases; twitching, spasms and contracture; cutaneous or deep anaesthesia; tachycardia, or abnormally slow pulse; and loss of weight and nausea. The mental disorders met with in the service are not different, except in cause, from those occurring in civil life. The value of early and thorough treatment is evident in all cases.

Mental symptoms may arise, either from shell shock or as a result of the prolonged nervous strain under war conditions. Early symptoms are irritability, loss of power of concentration, defective memory, especially for recent events, mild depression, general loss of energy and diminished capacity to carry on duties resulting from loss of self-reliance and the power of judgment, morbid fears, weeping, inability to make a decision, and loss of the power of inhibition of ordinarily repressed tendencies. Later symptoms are restlessness and mental confusion, insomnia, distressing dreams, somnambulism, hallucinations and illusions of sight and hearing, and stupor of varying degrees—in short, one or all of the symptoms of confusional insanity may be present. Exhaustion psychoses are by far the most common, as would be expected from the nature of the strain.

"Fortunately many of the cases are quite mild and readily recover if given time and appropriate treatment, and if the treatment is persisted in until recovery has taken place. On the other hand, some cases run a sub-acute course, and a general hyper-sensitivity of the nervous system is the predominant symptom. . . . It does not seem to be always appreciated how important is this hyper-sensitivity, and how it may be the chief factor in determining a nerve-exhaustion breakdown. Some of these patients develop epileptic fits, and, whenever the reflexes become very over-active, it is always well to guard against seizures by prophylactic treatment. . . . The breakdown may have little or nothing to do with war conditions more than that strain may hasten on the disease, as in general paralysis, dementia praecox, or maniacal depressive states.

Alcohol acts with special force upon those who have had head injuries—concussion and the like—and small amounts may give rise to serious symptoms.

"The prognosis is favorable in most of the cases in which the exhaustion or strain is a recent one, and where proper treatment has been carried out." The author warns against being over-confident of rapid recoveries. Exhaustion cases quickly improve and readily relapse. Every means should be employed to aid in the decision as to the permanency of the cure. Sudden shocks sometimes restore lost functions. "This probably indicates that the original disorder which gave rise to the secondary sensory disturbance has recovered, and in consequence any stimulus may remove the secondary symptom.

"The first treatment in functional neuroses and psychoses is the same as in all acute conditions, *i. e.*, to give rest. Now the rest must be both physical and mental, and herein lies the difficulty. Can it be expected that a man with a highly irritable nervous system, whom the least noise distresses, can obtain rest or sleep in a ward or dormitory? Single rooms are absolutely necessary, not only to give the patient a proper chance for quiet and sleep, but to prevent the risk of his acquiring any tics, spasms, or similar habits from other patients. It is true that some patients do not do well if isolated, but isolation is not necessary so long as those visiting him are wise persons. Apportion out the day so that the patient has his treatments . . . . in the morning, a proper rest after the mid-day meal, and then the visitors, never more than two, before six in the evening. . . . It is clear that patients will take varying times to recover; this depends upon the severity of the emotionally toned stress and state of the person as regards fatigue at the time the stress was operative. In the case of fears, it is some time before the memory of them fades.

"The medicinal treatment is chiefly confined to giving sedatives. The writer has found from experience that bromides are beneficial in practically all cases, but it is advisable to rely upon small doses long continued rather than to give the larger quantities. . . . Losses of weight and other symptoms are to be prescribed for in the usual way. As regards special treatment, in some cases massage is helpful, but it will be found that it is inadvisable in highly exhausted or irritable patients. Baths are helpful in allaying restlessness. For palsies special medical exercises should be ordered. In some cases electrical treatment is valuable. Mutism and disorders of speech can be treated in various ways; many patients recover with rest alone; others improve quickly on receiving special breathing and phonation exercises. . . . Hypnotic suggestion has proved of value in some cases; also it is claimed that psychoanalysis has been employed with success, but the writer has not been impressed by the results he has seen of this form of treatment.

"When the patient passes into the convalescent stage, it is important to bear in mind that recovery is by no means assured unless some method of treatment is persisted in. In a number of cases, to return a patient to his friends at this stage is either courting relapse or retarding recovery. . . . Modified work with plenty of rest is frequently helpful when the more severe symptoms have passed away, the amount of work being regulated by its effect on the body weight, sleep and pulse rate, etc. Another point which it is necessary to emphasize is that as nerve exhaustion and shock conditions are found in hyper-sensitive persons, care should be taken not to convey to a patient that you suspect him of not trying to recover. If one takes the trouble to examine a patient properly, it is easy enough to test this, and until this has been done and evidence found, such suggestions should not be made. . . .

"The problem [of proper care] is a large one, but it will have to be faced, otherwise the country will have left on its hands many men who, under proper conditions, might have been restored to health; these will either be pensioned, or, from no fault of their own, will drift and become chronic invalids, with no capacity for work, unable to keep themselves or their dependents."

Hunt, J. Ramsay. Psychoneuroses of War. Internatl. med. annual 35: 432–37, 1917. References

A review of some of the principal articles on war neuroses published 1915–1916. Mott's theory as given in the Lettsomian Lectures, is stated in detail. Articles by Myers, Campbell, Forsyth, Eder, W. A. Turner, and Dejerine and Gauckler are abstracted.

Pierce, Bedford, and Wilson, Marguerite. Shell Shock. Internatl. med. annual 35: 461–66, 1917. References

A review of the most important literature on shell shock published 1915–1916, combined into the form of a general survey of the subject. The following phases of shell shock are discussed:

1. *Etiology:* Theories of Forsyth, Mott, Elliot Smith, Grandclaude, and Rows are abstracted.
2. *Pathology:* Types of shock are briefly discussed.
3. *Symptoms:* Brief summary, followed by quotations from Mott on cardiovascular symptoms, Myers on sensory symptoms, and Hurst and Ormond on vision. The affections of hearing, speech and gait, tremors, paralysis, insomnia, dream states, and mental conditions are briefly discussed.
4. *Treatment:* Savage's reasons against admitting men with direct insane inheritance to military services are summarized. Under this heading the care and treatment of acute and shock cases, cases of insomnia, mutism, blindness, and errors of gait are briefly discussed, with quotations from Mott, Myers, Hertz and Ormond. Opinions on cure through hypnosis are quoted from MacDougall, Myers, Mott, Elliot Smith, Tombleson and Milligan. Forsyth, Rows, and Elliot Smith are quoted on psychotherapeutical methods. Garton's experience with electricity is summarized. Aldren Turner's article on military hospitals for shell shock (Lancet, May 27, 1916) is abstracted, and the opinions of Forsyth and Elliot Smith opposing the sending of cases of shell shock back to the firing line are quoted.

U. S. Army. Report of Surgeon-General. 1912. p. 78

The admission rate for insanity for the United States was 1.68 per 1,000 as compared with 1.58 for 1910, 1.63 for 1909, 1.58 for 1908, and 1.79 for 1907. The noneffective rate was 0.46 per 1,000, as compared with 0.32 for 1910, 0.29 for 1909, and 0.31 for 1908.

U. S. Army. Report of Surgeon-General. 1913. p. 76

It is impracticable to compare the admission rate for this class of disturbance with the rate for diseases formerly classified and published under the term "insanity." The diseases included under the term "mental alienation," used in the present nomenclature which was put into use January 1, 1912, includes several conditions not included under the term insanity, such as defective mental development, constitutional psychopathic state, hypochondriasis, and nostalgia. The case admission rate for this class of diseases was 3.26 per 1,000 and the discharge rate was 2.78. [The admission rate for mental alienation was 3.56 for American troops in the Philippine Islands.—p. 106.]

U. S. Army. Report of Surgeon-General. 1914. p. 100

The admission rate for mental alienation was 4.83 for American troops in the Philippine Islands. In the United States the rate was 2.92. Last year the rates were 3.56 for American troops in the Philippine Islands, and 3.26 in the United States.

U. S. Army. Report of Surgeon-General. 1915. p. 95

The admission rate for mental alienation was 6.24 for American troops in the Philippine Islands. In the United States the rate was 3.83. Last year the rates were 4.83 for American troops in the Philippine Islands and 2.92 in the United States.

U. S. Army. Report of Surgeon-General. 1916. p. 75

The case admission rate for mental alienation (all) for 1915 was 3.04 per 1,000, and the discharge rate 2.54, as compared with 3.83 per 1,000 for the admission rate and 3.02 for discharge rate during the year 1914. The admission and discharge rates for the entire army for 1915 were 3.84 and 3.30 per 1,000, respectively.

U. S. Army. Report of Surgeon-General. 1917. p. 79

The case admission rate for mental alienation (all) for 1916 for the United States was 3.73 per 1,000, and the discharge rate 2.65, as compared with 3.04 per 1,000 for the admission rate and 2.54 for discharge rate during the year 1915. The admission and discharge rates for the entire army for 1916 were 3.55 and 2.61 per 1,000 respectively.

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NEUROPSYCHIATRY AND THE WAR

A Bibliography with Abstracts

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WAR WORK COMMITTEE

THE NATIONAL COMMITTEE FOR MENTAL HYGIENE, INC.

50 UNION SQUARE, NEW YORK CITY

1918

NEUROPSYCHIATRY AND THE WAR

A BIBLIOGRAPHY WITH ABSTRACTS

SUPPLEMENT I

OCTOBER 1918

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THE NATIONAL COMMITTEE FOR MENTAL HYGIENE, INC.
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PREFACE

The literature of military neuropsychiatry has become so voluminous since the outbreak of the war that it was found impossible to include, without serious delay in publication, abstracts of all important books and articles on this subject in the original volume, "Neuropsychiatry and the War." For this reason the War Work Committee of the National Committee for Mental Hygiene has issued Supplement I, which contains as much of this omitted material, together with part of the more recent literature on the subject published since the original volume was issued, as there was time to prepare in the three months after the publication of "Neuropsychiatry and the War." Owing to irregularity of receipt of foreign periodicals, difficulties in securing translators, and other obstacles, the amount of literature of many of the European countries abstracted in Supplement I is very scant. It is the hope of the War Work Committee that it may be possible to make accessible to date this omitted material, together with the current literature on the subject, by publishing quarterly bibliographies as additional supplements to "Neuropsychiatry and the War." Any future lists will be as inclusive as possible, but only material of special interest will be abstracted. In order to indicate, however, the scope of each book or article listed, a descriptive annotation will accompany every entry. These supplements, if issued, will be distributed free to psychiatrists and neurologists of the Medical Corps, and to libraries and institutions where the publication can be used to advantage.

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BRITISH LITERATURE

Maitland, E. P., and Campbell, Kenneth. Case of Temporary Blindness. Brit. med. j., Sept. 15, 1917, p. 360

A sergeant, aged 49, was admitted to hospital with a temperature of 101.2°, and blind. He complained of some headache. Both fundi were healthy, the media were clear, and no thickening of the retinal arteries could be seen. The temperature slowly fell to normal in eight days, when *pari passu* with the reduction of temperature his vision began to improve, and fourteen days after admission he could see well enough to read a newspaper. He later returned to duty.

The usual causes of blindness unconnected with visible eye changes are hysteria, uremia, and acute retrobulbar neuritis. The case bore some relation to the last, but the pupils were undilated and normal in action, there was no pain on movement of the eyes, nor pain on pressure applied over the globes.

The case was considered to be due to some toxic condition of the blood, which caused either anesthesia of the rods and cones of the retina, or of the neurons of the visual cortical centres.—A. Ninian Bruce, Rev. of neurology and psychiatry 15: 332, Aug.–Sept. 1917.

Green, Edith M. N. Blood Pressure and Surface Temperature in 110 Cases of Shell Shock. Lancet, Lond., Sept. 22, 1917, p. 456–57

Green presents her observations on blood pressure and its relation to the physical condition of patients in the British Army.

It was found that 55 men showed on admission a pressure below 120 mm.Hg., and of these 25 were between 88 and 110. These were the severe cases of shell shock. Of the other 55, 28 were between 130 and 150 mm. Hg., and 27 between 120 and 130. Of those above 130 only 4 were severe cases. With the exception of 8 men, all showed subnormal surface temperature varying from 18° to 31.5°C. The temperature was taken in the hand with a surface temperature thermometer, the temperature of the air and a healthy control being noted at the same time.

All of the cases with a very low blood pressure were suffering from dreams which woke them in a state of terror, sweating, and trembling. Their hands were dusky and clammy, and most of them had a tremor. They showed a marked fatiguability and irritability; most of them were depressed and showed a great lack of self-confidence and initiative; all suffered from headache. On admission nearly all had dilated pupils.

An improvement in the general condition was coupled with a gradual rise of pressure. At the same time the dreams became less terrifying and there were fewer signs of fear. In some cases which had shown a return of symptoms—such as nightmares, tremors, headaches, or had some cause for considerable worry —it was found that there was a drop in blood pressure at the same time. In most cases there was a rise of surface temperature as the general condition improved, though any subsequent fall in surface temperature or blood pressure did not always coincide.

No case showed any organic lesion, and the urine was normal.

As a gradual rise in blood pressure was found to coincide with general improvement in condition, pituitary and thyroid extracts were given in order to see whether a general improvement could be obtained more quickly.

An interesting point was the almost constant relationship between the low blood pressure and terrifying dreams. It seems as though the vaso-motor disturbance which was produced at the time of the shock was rendered more or less

permanent by the constant repetition in dreams of the former terrifying experiences. At the same time the low blood pressure caused a cerebral anaemia and lessened mental and physical activity, which prevented the man from throwing off the effects of his imagination—thus a vicious circle being produced. A gradual or rapid rise of blood pressure in nearly every case was accompanied by a change in the character of the dreams, the terror element being less marked. —J. B. H., Bost. med. and surg. j. 178: VII, X, Feb. 9, 1918.

Collie, Sir John. Management of Neurasthenia and Allied Disorders Contracted in the Army; Lecture Delivered at the Royal Institute of Public Health, June 1917. Recalled to life, Lond., no. 2, p. 234–53, Sept. 1917. Also in Mental hygiene 2: 1–18, Jan. 1918

That the war in Europe has been responsible for a large number of cases of functional nervous disease can scarcely be a matter for surprise to members of the medical profession. For some considerable time the tendency to neurotic manifestations has been on the increase among the male population of all highly civilized and industrial countries, and when an individual of this type has been subjected to the added stress and strain of modern warfare it is not surprising that sooner or later he should break down under the excessive pressure.

Col. Sir John Collie delivered in London some time ago an address on this subject. He pointed out that approximately there were 34,000 men in Great Britain who were drawing pensions because of their inability to serve on account of some functional nervous disease. Such men were by no means necessarily cowards, indeed many of the 34,000 had distinguished themselves by signal acts of bravery and when seemingly recovered many had expressed a wish to return to the front—were impelled thereto by a sense of duty. Of course they could not go because they were temperamentally and neuropotentially unfit for the work. The time for preventing these nervous breakdowns is, if possible, before the acceptance of the man in the army. There are a large number of men apparently physically fit who exhibit no symptoms which would justify the medical examiner in rejecting them, and who yet will "crack" under the nerve-racking and emotion-straining experience of war as it is waged to-day. It has been announced recently that the Medical Department of the U. S. Army has decided to extend its psychological examination to all enlisted men and to all newly appointed officers of the army. The extension of this form of examination is due to the success which has attended the experiment of psychological examination made at Camps Lee and Devens. The purposes of the tests as outlined by Major Robert M. Yerkes in charge of the section of psychology of the surgeon general's office, are as follows: (1) To aid in segregating and eliminating the mentally incompetent. (2) To classify men according to their mental capacity. (3) To assist in selecting competent men for responsible positions. This decision of the War Department is a step in the right direction, and may aid in solving the problem of the neurasthenic drafted man, although there is little or no relation between mental deficiency and neurasthenia. The existence of an obvious tendency to functional nervous disease should be easily detected by a careful examiner, but it is extremely difficult, in fact impossible in the majority of instances, to diagnose a simple predisposition to neurasthenia. Therefore a large number of cases of shock will continue to be returned from the front and the object must be to treat these as efficiently as possible.

Sir John Collie, in the lecture above mentioned, says that medical treatment is of no real value unless the medical men have confidence in themselves and can commandeer the confidence of the patient. Infinite patience, common sense at every turn, and real, but thoroughly disguised sympathy are essential in those who undertake the care of such cases. Massage, electricity, persuasion, occupation, light, graduated work, fresh air, good wholesome food, and above all a healthy

environment are essential adjuncts. The psychotherapeutic method of treatment has been found by experience to be wonderfully effective provided only that it is in the right hands. Nothing retards recovery so much as the flying visits of unthinking but kindly intentioned philanthropic lady visitors. Persuasive conversation should be systematically arranged for, in which the patient and doctor can have quiet talks, so that the man is led by tact and guarded sympathy to lay bare, what is, as it were, at the back of his mind. Nothing in the nature of psychoanalysis, however, is recommended. Collie's experience is that it is better that all patients should be isolated during the early part of their treatment. The calm restfulness of solitude has a peculiar effect in allaying irritability, and strange as it may appear, prevents morbid introspection. Isolation is not solitary confinement; a nurse is in frequent attendance. The short initial stage of isolation enhances the value of the suggestion of rapid recovery practised by the physician and nurses. Electrical treatment for these cases is of value, but the stoutest advocates of this method will not deny that the effect is intimately associated with the mysteriousness of the electric current. There is one proviso to make with regard to all treatment and that is, unless the patient desires to get well no treatment can cure him.—Med. rec. 93: 460–61, March 16, 1918.

Turner, William Aldren. Hospital Treatment of Shell Shock. Recalled to life, Lond., no. 2, p. 251–53, Sept. 1917

In *Recalled to Life*, No. 2, is an address by Lieut.-Col. Aldren Turner, C.B.M.D., in which he discusses the principles of the management of the shell-shocked and neurasthenic soldiers in the special military hospitals. These principles, four in number, were laid down early in the war, but they were subject to modification as our knowledge of these patients and of their disabilities became better known and understood. The first principle was segregation. For the most part the neurasthenic soldiers had been treated in institutions specially set apart for the purpose under the care of medical officers specially qualified to treat them. The adverse criticisms which were brought forward in opposition to segregation in the early months of the war had not been justified. On the contrary, its usefulness had been strengthened and extended by experience. These patients did not imitate each other, or in other ways react harmfully upon each other. On the other hand, it has been found that when placed in the general wards of a hospital, the sufferer from shell shock not infrequently was the butt of the other patients, who were unsympathetic and disposed to regard as trivial the tremors, stuttering speech, unnatural gait, and other symptoms which characterized so many cases of shell shock. The admixture of these patients, as had been suggested, with cheery companions suffering from non-nervous disabilities, might even be undesirable.

The second principle was to give the medical officers liberty to treat their neurasthenic patients along such lines as they considered desirable and which experience had shown to be of therapeutic value. There was no disorder to which the axiom "treat the patient and not the disease" applied with greater directness than to neurasthenia. This liberty of action was very necessary when they considered the different types of neuroses and psychoses which were admitted to the military hospitals under the guise of shell shock. Cases of exhaustion required rest in bed; paralytic cases required exercises and reeducation of the movements of the paralyzed limbs. The simpler forms of anxiety needed reassuring and explanation of the origin of their fears. The terrifying dreams which disturbed the sleep of so many men suffering from shell shock required to be analyzed and explained. The dreads and fears, delusions and hallucinations, and other morbid ideas required to be searched, investigated and understood. After this the readjustment of the patient's mental outlook towards his symptoms required to be taken in hand. It had been found that a

too constant and too frequent use of massage, of electrical applications, of baths, and of other physical methods of treatment assiduously practised at the spas, tended to accentuate rather than relieve the condition for which they were used.

The third principle was occupation. Quite a number of cases of war neurasthenia and genuine shell shock in the early stages derived great benefit from a "rest cure," but it had become increasingly obvious, with more experience and knowledge of these cases and their causes, that rest and isolation had only a limited application. The best results were obtained by a judicious combination of a suitable psychotherapy and occupation, mainly of an outdoor kind. It was useless to attempt to cure by work alone, a man whose mind was depressed by anxiety and forebodings attributable to circumstances which he did not understand; but if by judiciously selected work and carefully regulated outdoor occupation, his sleeplessness was mitigated and his circulation and general nutrition improved, the value of the mental therapeutics was enhanced and supplemented.

The fourth principle was compensation. It was recognized early in the war that a large number of soldiers who suffered from shell shock and neurasthenia would be unfit to return to military duty, although their ability to carry on their civilian work after discharge would not be more than temporarily impaired. As it had been recognized for a long time that some forms of nervous disability were prone to exaggeration, or might even be made chronic by undue consideration, it was determined that nothing should be done by the payment of pensions which would retard or prevent the recovery of soldiers who had been disabled from nervous breakdown. It was thought, therefore, to be desirable to recommend the granting of a money bonus, in place of a pension to selected cases of neurasthenia and functional nervous disorder occurring amongst soldiers when treatment in hospital was no longer necessary and the patient was unlikely to be fit for further military service.—Med. rec. 93: 726, April 27, 1918.

Viets, Henry. Shell-Shock; a Digest of the English Literature. J. of Amer. med. assoc. 69: 1779–86, Nov. 24, 1917.

The author reviews the English medical literature of shell-shock, making frequent quotations from the authorities to whom he refers. The first report of cases appeared in 1915 under the term of "shell-shock." The symptoms are varied, covering nearly all the functional and hysterical phenomena described by authors. The importance of the problem cannot be overemphasized and, if it is possible, those subject to the disease should be eliminated from among the recruits before they are exposed to the perils of trench warfare. The neuropathology of the condition has been best studied by Mott. In the fatal cases, the symptoms of shell-shock resemble those of the gas poisoning, which most neurologists hold cannot alone produce shell-shock. The treatment is largely moral as well as physical and seems to have been well worked up in the British hospitals. The writer asks in conclusion: "What can the Medical Corps of the United States Army do toward the prevention of shell-shock? Obviously it must be checked at the recruiting station or in the cantonment camps before the men leave for France. There ought to be no question in the minds of the medical officers as to the advisability of checking this condition at the source, for no one who has seen the results of modern warfare on the unstable mind can do otherwise than urge such measures with utmost vigor. It becomes the duty of each medical examiner to weed out from the recruits such men as are liable to shell-shock. By so doing an enormously important advance will be made in our army, as judged by the experiences of the other armies of the Allies. We have been strongly advised by Osler to check the enlistment of the neurasthenic. It is obviously difficult to pick him from the crowd, as he may come up in good form, and be eager to go overseas. But it is not so difficult with the mentally deficient, the 'queer stick,' the 'boob,' and the butt of the practical jokers. He is soon observed by both officers and men, and if one singles him out and talks with him for

five or ten minutes, one ought to have no difficulty in deciding his fitness for active trench warfare. One ought also to look with especial care into the past history of the depressed, the man who worries unnecessarily, the self-conscious, the shy, the high-strung, excitable man, the violent-tempered, the nervous, the timorous, the easily frightened, or the neurotic individual. Any or all of them may make poor first-line-trench soldiers. The task is difficult, but that in itself should not prevent us from trying. What an advantage it would be to our army officers, and what a saving of life it would mean to our men, if the shell-shock patients could be eliminated from our forces that will fight overseas! Such a utopia is probably impossible, but I feel confident that careful weeding out of the mentally unfit will certainly greatly reduce the numbers of shell-shock cases that are bound to appear in our casualty lists."—J. nerv. and ment. dis. 47: 146–47, Feb. 1918.

Jones, A. Bassett, and Llewellyn, Llewellyn J. Malingering, or the Simulation of Disease.* Phil., Blakiston, 1917. 708 p.

The present war has brought to the front a subject which is greatly neglected in peace times. To be sure, prison physicians, psychiatrists, and insurance examiners are all more or less familiar with malingerers, but now that the world has been combed for soldiers, and these exposed to terrific strain, we find wholesale malingering. Artificially induced abscesses, sugar added to the urine, soap-chewing, convulsive efforts, these are commonplaces in the big armies, and have been described in many papers. Jones and Llewellyn, however, have undertaken a monograph on the subject and produced an admirable work. After an exhaustive study of the subject as a whole, with its psychology and medico-legal aspects, the authors go into great detail in describing malingering in its relation to various systems of the body; this part of the book is systematic and thorough, no vague generalizations are indulged in, but the writers are specific and practical. In short, they exemplify their own doctrine that a diagnosis of malingering must not be founded on incomplete examination, imperfect observation, or hasty inference. This work might well be added to any practitioner's library; to the military surgeon it is invaluable.—Med. rec. 93: 474, March 16, 1918.

Mott, Frederick W. War Psychoneurosis. Lancet, Lond., 1: 127, Jan. 26, 1918

While admitting that from commotion or prolonged stress of war, a stable nervous organization may develop an acquired emotivity, Mott says that it seems that the psychogenic or autosuggestive factor, acting on a prewar emotive brain, is the chief determining cause of war psychoneurosis, and the neurotic patient's protest of anxiety lest he be boarded out of the service, or not allowed to go to the front, is really in many cases an indication of an exhausting conflict which has been going on continually in his mind between the self-conservative instinct and the moral obligation of duty and patriotism, which has its roots in the social herd instinct.—J. A. M. A. 70: 1263, April 27, 1918.

Forster, Frederick C. Management of Neurasthenia, Psychasthenia, Shell-Shock and Allied Conditions. Practitioner, Lond., 100: 85–90, Jan. 1918

In the *Practitioner* for January, 1918, is published a paper on the management of neurasthenia, psychasthenia, shell shock, and allied conditions, by Dr. Frederick C. Forster, in which the author points out that while neurasthenia may be of different types the sufferers nearly always have in common certain symptoms, the most prominent being depression, lassitude, often combined with a curious restlessness, insomnia, loss of power of concentration, failure of memory, abnor-

* Published originally in London by William Heinemann, 1917.

mal sensations in different organs, tremblings, dragging pains, palpitation, loss of appetite, and loss of vitality. This is a true word-picture of the symptoms of a neurasthenic, not that they are all combined in one sufferer, but they are the conspicuous symptoms that are apt to occur. Worrying over his complaints and imaginary complaints is a characteristic feature of the sufferer from neurasthenia. He attaches undue importance to all his disagreeable sensations, and is especially anxious with regard to the tachycardia, which is a frequent accompaniment of the condition, imagining it to be a sure indication of a serious heart lesion.

The cure of a neurasthenic involves infinite patience and tact on the part of the medical attendant. First of all, in treating a case it is incumbent on the medical man to make a correct diagnosis, and definite disease of any organ must be eliminated before it can be said to be a true neurasthenia. Assurance must be had that the condition is not owing to toxemia, influenzal or gastrointestinal, for the depression accompanying or following a toxemia of this description cannot be labeled or treated as a neurasthenia. Forster holds that the keynote of the management, a term he uses purposely in preference to treatment, is to induce "self-forgetfulness," to do away with the inertia, to improve the morale by encouraging a feeling of independence, and to adjust the patient's life so that petty troubles and annoyances take their subordinate position, whether this is achieved by some wholesome occupation, by drugs, or by some of the many other methods which may be employed. The Weir-Mitchell rest cure is recommended, and it is pointed out that, apart from the dieting, the chief essential is to procure sleep for the patient. As for drugs, chloralamide is to be preferred to either paraldehyde or the bromides, and for the general excitation monobromated camphor with conium is useful. It is not advisable, however, to prolong the Weir-Mitchell treatment after the acute stage has passed off.

It really is an interest in life that such people need. The author is not an advocate of drug treatment. Regarding change of air, scene, and climate, which really means change of environment, the suggestion is put forth that it is not always possible to change the physical environment, yet much, very much, can be achieved by altering the mental or psychical environment, and the power of creating a special mental environment is helpful in turning what is repulsive into what attracts. In short, in neurasthenia it is the person, rather than the disease, that demands treatment. Finally, a return to work or occupation is likely to be of greater benefit by far than rest cures, that is to say, in a large proportion of cases.—Med. rec. 93: 464–65, March 16, 1918.

Savage, Sir George H. Mental War Cripples. Practitioner, Lond., 100: 1–7, Jan. 1918

George H. Savage is of the opinion that a very large number of soldiers and sailors will, after the war, be found more or less crippled, that is, unfit to perform their normal and accustomed duties, and that they will need special treatment and in some cases will have to learn fresh work. For such patients, physical or mental cripples, he believes that colonies in the country will be found to be the most beneficial. It will have to be considered whether such colonies should be special or general. His own opinion is that for epileptics the colony should be special, but that for other nerve disorders a union with sufferers might be found useful, as drawing the patient away from his subjective state to one of more active objective sympathy.—N. Y. med. j. 107: 472, March 9, 1918.

Wolfsohn, Julian M. The Predisposing Factors of War Psychoneuroses.* Lancet, Lond., Feb. 2, 1918, p. 177–80

Julian M. Wolfsohn finds that throughout the massive literature which has sprung up within the past three years one reads passing references mostly to the

* Practically the same article was published in Journal of the American Medical Association 70: 303–08, Feb. 2, 1918.

relation of the symptoms of war psychoneuroses to a previous neuro-potentially unsound soldier; most authors have elicited an inherited or acquired neuropathy in the majority of patients afflicted with shell shock, neurasthenia, or any of the neuroses resulting from the strain of the war. But enough actual specific data on the inherited and acquired neurotic factors in these cases have not been published. Before drawing generalizations on this subject, one should try to answer some of the following pertinent questions: (1) Of what kind of forbears is the patient a representative? (2) What is the personal temperament of the patient? (3) What was his former calling, and how has he shouldered his responsibilities during active war service? (4) Do acquired war psychoneuroses occur, and what are the causes thereof? (5) What is the relation of the last "shock" to the production of the war neurosis? (6) Why do not all soldiers suffer from war neuroses? Before answering any of these questions one must examine all available data, up to the time of active service, and also the actual causes and circumstances exciting the outbreak of the neurosis, realizing that every individual's nervous system will react according to his inherited tendencies superimposed on the effects produced by environment. Therefore the object of this special work is to make an intensive study of the causal factors of war neurosis as presented by the family and the personal histories (up to the time of, and including the cause of, disablement) of 100 cases of war psychoneuroses—viz., shell shock, neurasthenia, hysteria, and exhaustion. Insane cases are not included in this paper. As a control 100 cases of somatic injuries produced in the firing-line—viz., enucleation of an eye, fracture of the skull, jaw, femur, amputations, and wounds, with or without sepsis, have been similarly studied. The exhaustive history in most of the cases was given by the patient himself. In some cases the help of the wife or mother was necessitated to get as much first-hand available data as possible. From this study of 100 cases of war psychoneuroses and 100 cases of somatic injuries produced in the firing line Wolfsohn finds he can draw the following conclusions: Cases of war neurosis are very rarely associated with external or somatic wounds. The vast majority of the psychoneurotic cases studied were among soldiers who had a neuropathic or psychopathic soil. In 14 per cent of these cases a family history of neurotic or psychotic stigmata, including insanity, epilepsy, alcoholism and nervousness, was obtained, whilst a previous neuropathic constitution in the patient himself was present in 72 per cent. A gradual psychic shock from long-continued fear, together with the sudden change from quiet peaceful environment to the extraordinary stress and strain of trench fighting is the chief predisposing cause of war psychoneurosis in soldiers with neuropathic predisposition. In fact, these factors may be the cause of the neurosis *per se*. The history of the individual previous to enlistment has an influence on the character and gravity of the symptoms of the neurosis. Acquired neuroses with their less severe symptoms appeared only after excessive fatigue, with the concussion from the high-explosive detonation acting as the exciting factor. On the other hand, in the same abnormal environment, and with the same powerful factors obtaining, wounded soldiers do not suffer from war neuroses except in rare instances. In the wounded soldiers studied no neuropathic or psychopathic stigmata occurred in the family history. Previous neuropathic tendencies were found in 10 per cent of these patients (controls), all of which number presented mild neurasthenic symptoms. Hysteric manifestations, such as monoplegia in a wounded limb, are occasionally encountered in injured soldiers.—Med. rec. 93: 382-83, March 2, 1918.

FRENCH LITERATURE

Periodicals Abstracted

Annales de Médicine, Paris
Archives Médicales Belges, Paris
Bulletin de l'Académie de Médicine, Paris
Bulletin de la Société des Hôpitaux, Paris
Paris Médical
Progrès Médical, Paris
Revue Neurologique, Paris

FRENCH LITERATURE

Pitres, A., and Marchand, L. Observations on Concussion Syndromes Simulating Organic Affections of the Central Nervous System (Quelques observations de syndromes commotionnelles simulantes des affections organiques du système nerveux central) Rev. neurol., Paris, 23: 298–311, Nov.–Dec. 1916

In the first patient a meningitic syndrome developed soon after shell concussion; severe headache, retraction of the head, Kernig's sign and unilateral ptosis. The spinal fluid had a yellow color. He afterward developed a mental condition resembling catatonic dementia præcox. Fourteen months after the injury he was reëxamined and all symptoms were absent except slight weakness of the legs. In the second case there was a period of unconsciousness following the concussion, mental confusion, memory disturbance. The knee and Achilles jerks were lost. Speech was tremulous and hesitant. Except for the persistence of some ideas of persecution, the patient recovered in sixteen months. The third patient presented a cerebellar syndrome with the addition of some mental disturbance. The case simulating multiple sclerosis had lost knee and Achilles jerks. The case simulating tabes had no lightning pains, but in other respects was typical (the Wassermann reaction was positive). The author draws two conclusions: The diagnosis in these cases is difficult. These cases have as a basis an organic lesion. They are not hysterical or simulation.

Alterations in speech are divided into three classes: mutism, a stammering speech, and a high-pitched voice in which the patient speaks rapidly and irregularly.

Mental childishness, in a patient twenty-one years old, developed as a condition following shell shock. He talked and acted like a child, occupied his time sailing boats, etc., and frequently cried in a childish way. There were no disorientation, no hallucinations and the neurologic examination was negative.

The fundamental question in the determination of the pension allowance in nervous or mental cases is whether or not the condition present is due to service in the war. The fatigue and emotions of war may act as a determining cause and the value attaching to the predisposing cause, whether hereditary or acquired, is the same as in civil life.—J. nerv. and ment. dis. 47: 63–64, Jan. 1918.

Ferrand, Jean. Hystero-traumatism with So-called "Physiopathic" Syndrome Cured by Re-education (Hystero-traumatisme avec syndrome dit "physiopathique" guéri par la rééducation) Progrès méd., Paris, 33: 81–83, March 10, 1917

Attempts have been made to classify the numerous forms of paralysis resulting from wounds in battle. Some are due to direct lesions of peripheral nerves and their roots; others are hysterotraumatic in nature. Between these two extreme varieties there is a particular clinical type which must be isolated from others—paralysis of reflex origin.

Certain neurologists describe a form of paralysis characterised by special trophic, vaso-motor, electric, and reflex troubles in the paralysed limb, such phemomena being sufficient in their eyes to prove the organic origin of the paralysis, which explains their therapeutic failures. They infer from this the uselessness of even heroic psycho-therapeutic measures. This inference would seem to be somewhat premature, as observations on a case in point go to prove the contrary. It was that of an infantry soldier who, in May, 1915, was wounded in

the right calf. Healing followed a normal course, and was completed in a few weeks. During convalescence he began to walk badly owing to alleged pain in the limb, which assumed the position of equinus with contracted Achilles tendon. A surgeon, believing that the lesion was really organic, severed the tendon, restoring mobility to the foot, which could now be easily placed flat on the ground. He could, however, walk no better after the operation, and, although the equine phenomenon could no longer be produced, owing to section of the tendon, the leg assumed another vicious position, being semi-flexed on the thigh with immobilisation of the knee-joint. He could only barely put his foot to the ground, and was extremely lame, walking with the help of a crutch. Again a surgeon, never suspecting a neuropathic affection in the case of a wounded man, did a tenotomy of the flexor tendons of the leg, putting it up in a plaster apparatus to maintain extension of the limb. The result was satisfactory only to a slight extent, but he walked without a crutch when he was sent to a neurologic centre in December, 1916.

He walked with two sticks, the right leg in a position of forced extension on the thigh, and flexion was impossible. The first care was to seek for evidence of a lesion of the terminal branches of the sciatic, and especially of the internal popliteal branch. There was no true motor paralysis, but relative weakness of all active movements. All passive ones were possible except flexion of the knee. There was no sensory trouble; and all the reflexes were normal, a little stronger perhaps on the affected side. Trophic troubles were very marked. All the distal part of the leg was oedematous, cyanosed, almost a violet tint, very cold as compared with the sound limb. The skin was thin, attenuated, and the toes crossed each other to some extent. In the whole foot and lower third of the leg there was well-marked muscular hyperexcitability. The slightest tap on the muscles brought on violent contractions, and even dissociation of movements which are not usually independent in action, such as adduction of the great toe, or abduction of the little one. In a word, the case presented all the troubles attributed to reflex contractures or to the phenomena called "physiopathic".

The mental state was peculiar. A working miner, he weeps at the least examination, manifests absolute terror at the slightest touch of his affected leg, and tremblingly implores one to cure him.

To sum up: here was a wounded patient with a paralysed limb and contraction of the knee, who presented all the signs of the paralyses called "reflex", who has been subjected to a series of tentative therapeutic measures which have failed; a characteristic type.

As to treatment the patient was brought into our re-education ward, and, after having for a considerable time been subjected to fatigue by more or less violent physical exercises, the contracture was, as it were, brutally overcome. After half an hour of passive movements of flexion and extension of the leg, and after showing him how he could bend and straighten his limb, he was induced to do this voluntarily. These active movements were aided and sometimes provoked by galvanic stimulation of painful intensity. In the end he was able to walk slowly, while he bent both knees fully, and, after a treatment lasting about two and a half hours, he was cured.

The case was a particularly bad one, for surgical immobilisation had caused intra-articular adhesions in the knee which it was necessary to rupture. A slight amount of hydrarthrosis followed next morning, but a few days later he walked like any normal person.

This, though a remarkable case, is not a solitary instance of the kind, and Dr. Ferrand has published the general result of his researches on the subject. The clinical type which has been sought to be created does not seem sufficiently differentiated. We need only cite in proof the successive denominations which have been given it. The term "reflex contracture" assumes a condition which very often does not exist, for there is flaccidity in many of these paralyses.

Moreover, the term "reflex" implies a pathogenic idea, which is already abandoned by the creators of the clinical type. It has been designated a "physiopathic disorder", a term which is not very precise, and has hardly more significance than the old term "functional". In the minds of the authors this term "physiopathic" would imply the idea of an organic lesion, or at least one not functional in character. And the syndrome thus created is, in their descriptions, opposed not to an organic, but to an hysterical syndrome. In this view Dr. Ferrand cannot share.

He concludes his article with the following summary:

(1) Physiopathic symptoms exist, but they do not constitute an independent clinical syndrome. Many patients presenting these special symptoms, separate or combined, are cases of organic affections with lesions of peripheral nerves; moreover, direct and not reflex.

(2) There is but little relation between the reflex lesions described by Charcot as occurring in chronic arthritic cases and post-traumatic lesions. These latter are, moreover, described by him also amongst the hystero-traumatisms.

(3) The symptoms are not completely new.

(4) They are to be found to-day in many wounded who do not present any organic lesion, but merely ordinary hystero-traumatisms.

(5) They do not constitute any contra-indication to psychotherapeutic treatment, even of an heroic kind, and these patients are cured as well as the others. In any case, from the fact of a failure of cure it is not to be inferred that they are not the subjects of hystero-traumatism; for some succeed where others have failed, of which the patient whose case has been recorded is an example.

(6) From a medical and military point of view, such patients (when they have not been attacked with organic affections) should be considered and treated as cases of hystero-traumatism. It would be dangerous to make them out to be organically diseased or to treat them as such, for the contagion of example would make ravages in neurological centres.

(7) To cure these patients we must employ all the most energetic means which the authorities have placed at our disposal, from moral suasion to the most painful electric currents. In this way multiple successes are achieved, and the army recuperated with vigorous subjects.

Such are the conclusions to which Dr. Ferrand and his colleagues have been led by a practice of eighteen months in one of the most important neurological centres in France.—T. Drapes, J. ment. sci., Lond., 63: 602–04, Oct. 1917.

Landau, Principle of Psychical Isolation in the Treatment of Functional Nervous Disturbances (Le principe d'isolement psychique dans le traitement des troubles nerveux fonctionnels) Bull. Acad. méd., Paris, 77: 701–04, May 29, 1917

Landau describes a new mode of treatment which he has found of great value in most cases of functional nervous troubles in warfare; he has thus treated about fifty cases. The patient is brought into the presence of other patients who present similar symptoms, but of an organic nature. A detailed clinical examination of the patient is then made in the midst of his fellow-patients. If, for example, his case be one of a functional causalgia, the physician reviews briefly the history of the case, its mode of production, and the destructive signs of these conditions. In the case of a functional palsy of a nerve, the physician discusses openly before all the patients the electrical changes, and then makes an electrical examination of the functional case and of an organic one. As a rule, after a few of these public demonstrations and lectures, and sometimes from the first one, there is benefit to the patient. By means of this kind of procedure Landau claims that a state of "psychical isolation" is set up. He describes it also as a sort of bringing the functional patient face to face with

himself. The application of the treatment must to some extent vary with the particular case. Three cases are described to illustrate these points.—L. J. Kidd, Rev. of neurology and psychiatry 15: 334–35, Aug.–Sept. 1917.

Hoven, Mental Diseases and the War. Archiv. méd. Belges, Paris, May 1917

Hoven states that he does not intend to go deeply into this subject, and contents himself with a brief analysis of the material which has come under his observation as military alienist during the past 14 months. Out of 300 cases, 28 were examples of post-traumatic psychoses such as follow trauma, cerebral commotion or moral shock. In 11 of the 28 there had been an actual injury to the cranium, while in 12 others shells had exploded close to the victims. Of the 28 patients, 16 presented evidences of mental confusion, and 8 of melancholia. There were 2 cases of dementia praecox, one of which the author describes, adding that in post-traumatic psychoses the possibility of dementia praecox should always be borne in mind.

With the exception of 24 patients whose insanity dated from before the war, the remainder of the material (256 cases) includes the ordinary psychoses of the alienist, viz., dementia praecox, 61 cases, and melancholia, 52 cases, followed by acute confusional insanity, with 16 cases, and progressive general paralysis, with 14 cases. Other psychoses occurred only in scattering figures (manic-depressive, mental disequilibration, alcoholic, etc.) However, under ordinary psychoses are comprised idiocy and imbecility, with 62 cases; i.e., the mental ailments were found to be associated with subnormal mental development. This contingent was, of course, the result of hasty selection during mobilization. The subjects presented either mental confusion, melancholia, or nervous crises. Latent mental weakness was in part brought out by alcoholic abuse. Those actually insane before the war were mostly volunteers suffering from paranoia, paraphrenia, epilepsy, and alcoholism.

The author states there is no specific war psychosis. The alleged "battle hypnosis" is no more than acute mental confusion with dream hallucination, occurring especially in post-traumatic psychoses. These patients are very wakeful, with an exaltation of psychic automatism and a sensorial erethism. Acute mental confusion is characterized in general by lacunar amnesia, which disappears slowly, and persists after other symptoms have vanished.

Simulation of insanity is rare, but dementia praecox often passes at its onset for simulation because the victims indulge in silly, absurd, affected behavior. In true simulation the patient is always abnormal, a psychopath. In contrast with actual simulation, exaggeration is common. Psychopathic deserters are not uncommon, and much care is necessary for the proper fixation of responsibility.

By what mechanism does warfare cause insanity? No one knows now, but after the war is over it may be possible to answer this question. No doubt insanity is produced by a commingling of psychic and somatic insults. Homesickness, loss of sleep, fatigue, at once suggest themselves, and we may add apprehension of danger, shell concussion, etc. Hereditary taint and history of neuropsychic manifestations are very common; in fact, predisposition in some form is almost universal. In some material, alcoholism, whether as effect or cause of predisposition, is present in a third of all cases.

The practical aspect is diagnostic and not therapeutic. But few of these men are fit for duty, for they can seldom react properly to discipline. They must be mustered out, and, if necessary, interned. The best modern treatment is life in farm colonies, which results in more or less improvement. The inoffensives are able to do useful work for the army in various capacities—basket-weaving, shoemaking, woodworking, baking, etc.—Med. rec. 92: 637, Oct. 13, 1917.

Guillain, Georges, and Barré, J.-A. Alterations of Pupillary Reactions in Shock due to Bursting of Large Shells, without External Wound (Les troubles des réactions pupillaires dans la commotion par éclatement de gros projectiles sans plaie extérieure) Bull. Acad. méd., Paris, 78: 158–59, Aug. 28, 1917

A study of twenty-six cases of recent shell shock; the possibility of even a minimal wound of the eyeball was excluded. The pupillary changes comprised mydriasis; inequality of pupils with or without unilateral or bilateral loss of light-reaction, Argyll-Robertson pupils, or the paradoxical light-reaction. The pupillary changes were commonly transitory, lasting from three to twenty days or longer, and ultimately disappeared. In six of the cases there was xanthochromia of the cerebrospinal fluid with a slight meningeal reaction. The question is raised whether a xanthochromic or blood-stained cerebrospinal fluid, rendered toxic by haemolysis, may not act on the root-fibres of the cranial nerves either on the centripetal or the centrifugal limb of the reflex pupillary arc, or whether small basilar clots may compress the root-fibres. The central origin of these pupillary changes by small intra-peduncular haemorrhages is held to be unlikely. The writers incline to the belief that most of these cases are of peripheral origin, either a true commotion of the retina or of the nerves of the intrinsic eye-muscles, resulting in a temporary asthenia of one or both of these muscles. —L. J. Kidd, Rev. of neurology and psychiatry 15: 332, Aug.–Sept. 1917.

Roussy, Gustave, Boisseau, J., and d'Oelsnitz, M. Psycho-neurotic Contracture of Foot or Hand (Les acro-contractures et les acro-paralysies) Annales de méd., Paris, 5: 515–44, Sept.–Oct. 1917

This profusely illustrated article reviews the experiences with 141 cases of contracture or paralysis after minor wounds of the region.—J. A. M. A. 70: 890, March 23, 1918.

Crinon, Advanced Psychiatric Centers. Progrès méd., Paris, 33: 364–65, Oct. 27, 1917

Psychic changes should be recorded as scrupulously as the organic, writes Crinon. It is now officially ordered that the concussion syndrome has to be specified on the card. The "psychically disabled" should have their record as complete from the first as is the rule for the physically maimed. This would permit also suitable measures from the very first, when they are much more likely to prove effectual. The influence on the brain of physiologic disturbances from shell-shock or toxic infections should be arrested as early as possible. To neglect this allows the psychic changes to deepen and crystallize into delirium or confusional states. All this requires advanced psychiatric stations. Their existence is still further justified by the important task of sifting out the men to be sent to the nerve centers and the psychiatry centers farther back from the front. Many men only lightly affected could do well in them and be promptly restored to full duty. Sent back into the interior, their psychic disturbances become more and more confirmed and durable. At the best, the men are returned after months of convalescence when, if they had been given specialist treatment close to the front, they would have been in the ranks again in much less than a month. Toxic delirium of alcoholic origin is often mistaken for a more permanent trouble. It requires only a special course of internment and treatment which is as available in a well-equipped advanced psychiatric station as elsewhere. Men subject to convulsions can also be kept under observation here, and the nature and number of their attacks determined. Crinon thinks it is as absurd to exempt men from service on account of a single epileptic seizure—which is now the regulation—as to exempt those who have not good teeth.—J. nerv. and ment. dis. 47: 147, Feb. 1918.

Damaye, Henri. Psychiatry in the Army. Progrès méd., Paris, 33: 362–64, Oct. 27, 1917

Damaye analyzes 688 cases of mental or nervous affections that passed through his service last year. The mental disturbances were usually transient when the men were kept back from the front. The proportion of the persisting and incurable cases is surprisingly small in comparison to the more or less prompt recovery of the others. The mixed cases are especially numerous, namely, those in an intermediate stage between mental debility and dementia præcox, with and without delirium, or between hebephrenia and actual loss of mental balance. Hysteroepilepsy and hysteroneurasthenia were particularly frequent. The various types of mental anomalies are listed; the largest group was 71 cases of melancholia with notions of persecution; 39 cases of melancholia with a neurastheniform state; 51 of acute brief attacks of delirious excitement with hallucinations, and 37 of simple mental debility. In 24 cases there was desire to commit suicide; in 19 malaria was commencing, and in 399 there was slight albuminuria, with more or less perfect compensation of some heart defect. The albuminuria disappeared in most of them after a week of rest, but in others it persisted unmodified. The etiology of these nervous and mental disturbances is complex, predisposition, emotions, intoxications and fatigue all coöperating. The attacks of convulsions nearly always coincided with exhausting fatigue. Syphilis is a predisposing factor in the mental disturbances, and a combination of malaria and alcoholism, but all the mental and neuropathic troubles and even the syndrome of general paralysis can be started by some concussion mishap. This "presses the button" as it were. Treatment in all cases was to give at once a bath at 37° C. for one half hour if the man is tranquil, and for an hour at 40° C. if he is excited. A calomel purge was then given and the man was put to bed. The baths are repeated daily and no food but milk is allowed for two or three days. If the urine findings are negative, he is then given the restricted and then the full milk-vegetable diet. By this means the effects of the digestive disturbances, etc., are overcome. No wine is ever allowed; milk or "glyzin" are the only beverages given. The patients are all given, besides, a solution of 40 drops of tincture of iodin in 100 gm. gum mixture, fractioned, during the day. This is kept up for five to ten days. It serves to sterilize the digestive tract, promote leukocytosis, and acts as a general tonic. Cold baths are not advisable, but, if conditions call for it, a daily injection of 5 cg. of sodium cacodylate is given. When there is much mental distress, morphin is the resource and the much excited patients are given, beside the baths, 4 gm. of chloral in 120 gm. of gum mixture at night and possibly a very cautious injection of hyoscin hydrobromate. The most practical arrangement for the psychiatric service is to have an advanced station, moving with the front lines, and, farther back where all is quiet, a psychiatric center and a neurologic center to which the men can be evacuated from the advanced station. The evacuation should always be in charge of specialist attendants.—J. nerv. and ment. dis. 47: 150–51, Feb. 1918.

Cheyrou, Asthenia from Overexertion at the Front. Progrès méd., Paris, 32: 378, Nov. 10, 1917

The regimental physician often encounters pathologic conditions for which fatigue is the main factor. Cheyrou has found that this was the clue to many clinical pictures, and that improvement promptly followed treatment addressed to the fatigue. Lumbago is the simplest and earliest form, and the horizontal position for twenty-four hours banishes it as a rule. Fatigue fever is not uncommon, after special and prolonged exertion, with constipation, pains back of the eyes and in the back and along the tibias, with acceleration of the pulse and

rise of temperature. All of this may disappear under a few days of bed rest, repeated laxatives and restriction to water, with administration of quinin. In the severer cases the digestive apparatus, kidneys or heart may bear the brunt of the attack. Some of the men returning from the trenches at Verdun had reached such a stage of autointoxication from the prolonged constipation that enteritis followed and several weeks elapsed before normal conditions were restored. The nervous system shows the effect of excessive fatigue in various ways that he describes. These asthenic states, scarcely known before the war, are prevalent, and reduce the resisting power to infections. Prophylaxis should include measures to keep the diet varied and oppose constipation. Suitable provisions for sleeping would aid much in proper recuperation. Overexertion might be avoided by better distribution of energy and labor. The watches should be relieved oftener, and supplementary rations and hot drinks supplied in the hardest sectors. As fatigue reduces the alkalinity of the blood, alkalies should be supplied artificially, and diuretics and laxatives given to keep the emunctories open. Cheyrou suggests in treatment progressively large injections of strychnin to reenforce the nervous system, giving drops of epinephrin to restore muscular tone. He advises further utilization of physiologic serum with epinephrin. Administration of extracts of the suprarenal capsules has aided materially in overcoming asthenia and hastening elimination of toxins. Extract of testicles might be given with it, concluding with a course of tonics and means to recalcify the organism.—J. A. M. A. 70: 350, Feb. 2, 1918.

Guillain, Georges, and Barré, J.-A. Transient Sphincter Disturbance from Shell Shock. Bull. Soc. méd. des Hôp., Paris, 41: 1110, Nov. 16, 1917

Guillain and Barré report twelve cases of complete retention of urine or incontinence of urine after shell concussion without direct contact. Such sphincter disturbances are rare as they have encountered only these twelve cases among several hundred men with shell shock.—J. A. M. A. 70: 815, March 16, 1918.

Crouzon, O., and Mauger, N. Frequency of Infectious Antecedents in War Tachycardias. Bull. Soc. méd. des Hôp., Paris, 41: 1237, Dec. 7, 1917

Crouzon and Mauger state that in ninety-six cases of tachycardia in soldiers on active service they found over 50 per cent with a history of typhoid, acute articular rheumatism or other infectious disease, nearly all before the war. In four other cases the tachycardia developed after gassing; in four after concussion, and in two after a wound of the chest. Dumas, in the discussion that followed, remarked that he had sometimes found tachycardia an early symptom of pulmonary tuberculosis. He added that some of the candidates for the aviation course came from the front with tachycardia, but it subsided under rest and restriction of tobacco and alcohol. The men were anxious to get to flying and they usually threw off the tachycardia. The power of psychic influence is well shown, Josué added, by the tachycardia that develops in men being examined for the aviation course; it develops solely, he declares, from the candidates' fear of being rejected.—J. A. M. A. 70: 1040, April 6, 1918.

Boisseau, J., and D'Oelsnitz, M. Hysteria as an Element in Contracture of the Hands (Mains figées) Paris méd. 7: 501, Dec. 22, 1917

Boisseau and D'Oelsnitz refer to cases of contracture or paralysis in soldiers with or without organic lesions. They have had 108 cases of the kind in which the contracture had lasted from one to eighteen months in 63 and from eighteen

to thirty-six months in 45. The contracture was of the "accoucheur's hand" or the "priest blessing" type in many, and was usually of a type that can be reproduced at will. These and other features of the cases convinced them that the motor element in the affection was of hysteric or—as they prefer to call it—of pithiatic origin and hence susceptible of being cured by psychotherapy. They prepared the men for the treatment by keeping them in a circle of already cured cases, thus impressing on them the possibility of a cure. Then the application of systematic psychotherapy resulted in a sudden and complete cure of the motor element in 71 cases; in 17 cases the cure was rapid and complete, while it took some time for the complete cure in 14 cases. The psychotherapy failed completely in only 6 cases, and in all these there was no concomitant organic lesion. Of course the long disuse of the muscles took longer before normal conditions were restored but the abrupt overcoming of the long contracture confirmed the pithiatic nature of the contracture or paralysis.—J. A. M. A. 70: 576–77, Feb. 23, 1918.

Babinski, J., and Froment, J. Hysteria, Pithiatism and Functional Nervous Disturbances of War (Hysterie, pithiatisme et troubles nerveux d'ordre reflexe en neurologie de guerre) Paris, Masson, 1918. 295 p.

In a previous issue of the first edition of this work by Babinski, we have had cause to say that Babinski's contributions offer little or nothing to the interest of the hysterical problem by his erection of a new entity, which he terms pithiatism, namely, a disease which is caused by suggestion and can be cured by persuasion. The modern student of medical phenomena finds nothing dynamic in such a discussion and no student of energetics who has completed the study of the activities of the human body can obtain from this book any fundamental philosophical concepts of any value. On the other hand the clinician will find any number of extremely interesting descriptive points well illustrated and admirably outlined. To the student of the deeper psychology, independent of the particular phase in which it may be presented, Babinski's conception is superficial and static.—N. Y. med. j. 107: 384, Feb. 23, 1918.

GERMAN LITERATURE

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GERMAN LITERATURE

Buschau, George. War Psychosis (Über Kriegs-Psychosen) Med. Klin., Berlin, 10: 1588–91, Oct. 18, 1914

It is a well-known fact that accidents cause psychic disturbances more violent both in intensity and duration than the results of physical injuries. The clinical picture resulting from the fright and the shock connected with these accidents is known as "fright neurosis" or traumatic neurosis. An ordinary shock is often strong enough to affect seriously the nervous system. The patient becomes pale, his eyes protrude, his mouth opens, speech is lost, his hair stands on end, perspiration is profuse, the heart begins to palpitate, hands and legs tremble and he loses control over bladder and rectum. In severe cases, the patient becomes confused and excited, talks incoherently, etc. These conditions generally clear up in a short time, but sometimes they develop into chronic psychic disturbances. If nerve shock is complicated by permanent sequelae, we must assume a predisposition of the nervous system, either congenital or acquired. In other words, the individuals so affected are either psychopaths or are predisposed to a nervous or mental disease through the influence of alcohol, tobacco, poisonous gases, syphilis or other infectious diseases, and so are not able to resist the psychic strain.

War, with its terrors and emotional shocks, is a more potent factor than any other in the causation of mental disease. Here the writer reports in brief observations made during previous wars.

The causal factors of mental disease may be either physical or psychic, as, for instance, injuries about the head, excessive heat, intemperate use of alcohol, contagious diseases accompanied by fever, physical exertions of every kind, forced marches, lack of sleep and insufficient food, worry about family affairs, great emotional tension before battle, horrifying impressions during battle, panic during retreat, etc.

The observations made by Nasse in 1866 and those of Jolly are compared. A synopsis of the official report of the Sanitary Commission at the end of the Franco-Prussian War in 1871, which contains a detailed symptomatological study of the forms of mental diseases found at that time, is then given.

The writer differentiates between cases of mental disease which originate with head injuries and are caused by cerebral concussion or by organic lesion of the brain, and those which are of a purely functional nature.

Dr. Otto Holbeck, the Russian psychiatrist, is quoted by the writer. Holbeck believes that loss of consciousness immediately after bullet shot through the head does not occur frequently, and then only in comparatively severe injuries. After regaining consciousness, the patient shows several forms of psychic disturbance such as dullness, apathy, depression, impaired memory, especially retrograde amnesia, childish manner, abnormal sensibility. increased irritability, fits, rage, violence, delirium, etc., and sometimes great hilarity, mental confusion, hypochondriac and melancholic states and intense emotionalism. These conditions are caused by concussion of the brain, which is diffused mechanical injury, and not by the organic change of a particular part of the brain.

The writer makes the following statements with regard to the prevalence of psychic disturbances that are of a purely functional nature:

Dementia precox leads with 35%; psychopathic constitution follows with 25.5%; then come epileptic insanity, alcoholism, melancholia and depressive conditions, delirium, neurasthenia, hysteria and progressive paralysis. All of these disturbances are found in times of peace as well as under war conditions.

The most frequent disturbance among soldiers is a peculiar clinical picture which the writer wishes considered as war psychosis *par excellence*. It resembles cerebral neurasthenia to a great extent, but includes also hysterical symptoms and conditions of mental dullness. This symptom complex is identical with "defatigatio" known, since 1870, as exhaustion psychosis plus terror psychosis. The symptoms chronologically arranged are great depression, marked nervous exhaustion and increased debility of the nervous system, with a favorable prognosis.

The writer briefly reviews the observations of Awtokratow, then those of Krauser made during the East Asiatic expedition. The clinical pictures were various but coincided to a great extent with those described by Stierlin as psychical consequences of catastrophes such as the earthquake of Valparaiso, the railroad accident of Muellheim, etc.

The author believes that exhaustion and horror are to be considered the main etiological factors of war psychoses. The fact that not all individuals exposed to these conditions are affected shows, moreover, that predisposition must also be considered as an important etiological factor. An inferior psychopathic constitution shows itself in a lowered resistence to violent external impressions.

The extensive statistics of Awtokratow concerning the frequency of psychoses during the Russo-Japanese War are of little value because the abuse of alcohol in the Russian army gives a false impression. According to these statistics, alcohol psychoses amounted to 34.68% among the officers and 10.86% among the enlisted men. Epilepsy among officers was 4.88%, among enlisted men, 27.9%.

Weyert, Psychiatric Observations and Experiences in the Army (Militär-Psychiatrische Beobachtungen und Erfahrungen) Samml. zwangl. Abhandl. 11: 2–150, 1914–15

The military authorities are attempting to lessen the number of war neuroses and psychoses, especially borderline cases, by preventing the enlistment of the mentally diseased and by recognizing as early as possible all those in the army unfit for military service. To further this endeavor, it should be compulsory for the insane asylums, sanitoria, institutions for the feebleminded, and the like, to report all such cases to the military authorities. In spite of these precautions many inferior men are admitted to the army. It should therefore be the duty of officers to report immediately all cases that attract attention because of peculiar behavior, stupidity or dullness. Pamphlets and lectures on popular psychiatry would always help the officers to realize that men with such symptoms are not always malingerers and that such cases require immediate medical treatment. To further this purpose, special military psychiatric bases have been established.

At Posen, 106 cases were studied and the following diagnoses made:

	Total number	Enlisted men	Non-commissioned officers	[illegible] ficers
Alcoholic psychoses	9	4	4	1
Dementia praecox	23	20	3	0
Progressive paralysis	1	0	1	0
Organic brain diseases	4	1	2	1
Manic-depressive psychoses	2	0	1	1
Chronic paranoia	1	1	0	0
Epilepsy	11	11	0	0
Neurotic constitution	5	0	4	1
Neurasthenia	4	3	0	1
Mental defect	20	20	0	0
Psychopathic constitution	25	22	1	2
Hallucinatory psychoses	1	1	0	0
Total	106	83	16	7

These stations were intended to be used for purely mental cases, therefore neurasthenia and hysteria are represented by low figures. It is evident that the presence of mental disease has an unfavorable influence upon purely nervous cases, therefore separate services are advisable.

Statistics show that a large percentage of mental cases occur among volunteers. Many of them deny their defects in order to enlist, especially when they have been unsuccessful elsewhere. They frequently show a tendency to moral laxness. Stier states that in France eighty per cent of the deserters were from the volunteers.

The prognosis for types of dementia precox in the war is much more favorable than in times of peace. There were no very severe cases. Investigation showed that in about fifty per cent of the cases hereditary factors could be demonstrated. It was proved also that in about fifty per cent symptoms such as a great desire to work followed by periods of laziness, boastfulness, irritability, sensitiveness, anxiety, vanity, egotism, emotionalism, shyness, a tendency to seclusion, neglect of personal appearance, megalomania, attacks of vertigo, hallucinations, headaches, etc., had existed before enlistment. In such cases, the existence of dementia precox before enlistment was assumed and claims for indemnity were not granted. Simon believes that predisposition should be considered only as a secondary etiological factor and that the difficulties and hardships of military service should be considered the chief cause. Most of the other writers on this subject, including the writer of this article, are of the opposite opinion. Very often, after a several months' stay in the army, patients will be discharged who had shown symptoms of schizophrenia previous to their entering the service, but who were apparently normal during those few months. In such cases, the examining physician is not to be held responsible for overlooking the symptoms. The possibility of occurrence is, therefore, an important point in deciding forensic questions. Of the cases sent by the military courts to the stations for examination as to their degree of responsibility in committing offences, twelve were diagnosed as hebephrenics, eight as catatonics and one as a paranoiac.

It is difficult to differentiate clearly between mental dullness as a physiological phenomenon and congenital mental weakness as a psychopathological phenome-

non. This is especially true in individuals who have received no intellectual or moral training, for then it is difficult to know whether the defect is due to the lack of training or to a pathological condition. A diagnosis of congenital mental debility can be pronounced only when it is clear that attempts at establishing proper standards of conduct through education have proved futile. Such demonstration is difficult on account of the lack of authoritative information to be had from witnesses such as ministers, teachers, parents, etc. Hereditary factors could be proven in twelve of the twenty cases diagnosed as congenital mental debility, parental tuberculosis among them. Some of the symptoms in men of a retiring disposition were abnormal voraciousness, lack of personal cleanliness and of a sense of order, incapability to divide a given period of time properly so as to perform necessary duties, inability to follow instructions, stupidity, poor memory, absent-mindedness, and insubordination. In cases of the erethical type, these and other symptoms were present, such as boastfulness, excitability, a tendency to joke, etc. The writer groups cases of congenital mental debility into three classes as follows:

1. Cases of a mild type, that may still be used for military service.
2. Cases of moderate severity, where military service is out of the question but where the individual is responsible for his actions.
3. Severe cases, which exclude both the possibility of military service and responsibility for actions.

Many views have been expressed as to the nature of epilepsy. In this connection the question is simply whether or not genuine chronic epilepsy may be caused by skull injuries. Binswanger, Mendel and others admit the possibility. Surgeons and neurologists with surgical knowledge recognize a traumatic genuine epilepsy, and believe that, where the clinical diagnosis fails to recognize a traumatic etiology, an operation may reveal convincing signs. X-rays may also help in establishing the diagnosis of traumatic epilepsy.

The writer agrees with Redlich, that in trying to establish an epileptic diathesis, only those cases should be considered epileptics that give proof of true epileptic fits. So-called psychic equivalents should be regarded with skepticism.

Cases of general psychopathic constitution were frequent. The main etiological factor in fifty per cent of these cases was heredity. Those that exhibited congenital causes were (1) cases of hereditary degenerative constitution of the general type, (2) cases of an epileptoid nature, (3) cases of unstable temperament, (4) cases of sexual perversion, (5) degenerates with constitutional states of depression. Traumatism is considered an etiological factor in acquired psychopathic constitutions. Cases of each type are described in detail.

Chronic paranoia was of rare occurrence, comprising less than one per cent of all the admissions. The age of the men varied from twenty to forty years. This group consisted of chronically querulous individuals always engaged in a fight for their rights, with or without cause.

Neurotic constitution and acquired neurasthenia were very rare, and only a few cases of hysteria came under observation. Among the organic brain diseases were cerebral lues, progressive paralysis and cerebral tumor. The writer gives his experiences with cases that had previously been inmates of a reformatory, which group comprised 14.4% of the cases observed. Numerous statistical tables are given.

Mendel, Kurt. Psychiatric and Neurological Observations at the Front (Psychiatrisches und Neurologisches aus dem Felde) Neurol. Centralbl., Leipsic, 34: 2–7, Jan. 2, 1915

The writer has found that the occurrence of psychoses in the present war is astonishingly rare. This is probably due to the thoroughness of the examinations

at the time of conscription which eliminate all the psychologically doubtful cases.

Special divisions for mental diseases in the field hospitals were unnecessary. Isolation in a special room or in barracks in the grounds of the hospital was sufficient until the patients could be transported to the base hospital. During the process of transportation they had to be kept very quiet. This was accomplished by a subcutaneous injection of morphine and hyoscin, and in one case by mechanical restraint. The latter procedure will often be necessary on account of the lack of continuous baths or trained attendants.

War psychoses as a nosological entity do not exist, but war may give to psychoses a distinctive coloring. For example, patients in the operating room under narcosis talked only about war and military service, giving commands, making reports, etc., during the period of excitement. Even in other conditions such as hallucinations, etc., war was always in the foreground. In one case of amentia, however, the patient did not know where he was and imagined himself to be in an insane asylum.

The writer confirms Bonhöffer's statement with regard to dementia precox that, considering the age of the majority of soldiers, he believes the war will cause a great number of cases of schizophrenia.

He has not observed any cases of manic-depressive psychoses. Hysteria was usually more frequent among officers than among privates. The majority of patients accused of disciplinary offenses were chronic alcoholics.

The same article also treats of the writer's experiences with cases of tetanus.

Jolly, P. Observations in the Nervous Division of a Reserve Hospital (Erfahrungen auf der Nervenstation eines Reserve Lazaretts) Schmidts Jahrb., Bonn, 82: 141–47, March 1915

The paper is based upon 319 cases observed by the writer in the reserve hospital at Nuremberg. They were men between the ages of eighteen and forty-five who had been found fit for service, trained for a brief time, and had then served at the front for a shorter or longer period. There were no cases of pure psychosis, for these were treated in a special psychiatric ward, but cases of degeneracy and psychopathic constitution were observed. Patients of the former type usually combined some form of malingering with minor ailments. It was difficult to classify the psychopathic cases as many of them were of the border-line type. If such men reach the front, they are likely to cause much trouble, both for themselves and their comrades, and are especially susceptible to alchoholic temptation and stimulation. It is interesting to note that not a single case capable of being diagnosed as general physical and nervous debility was found among army recruits. All men of this type had been weeded out during the reservist stage.

Among the patients eighty were diagnosed as neurasthenic. Cases of cardiac neurosis were included in this group. Most of these patients had manifested symptoms of nervous trouble before the war. Those who claimed to have been perfectly healthy before entering the service generally exhibited the clinical picture of exhaustion neurasthenia. Characteristic symptoms, observed mostly in officers, were a tendency to weep and great irritability.

The diagnosis of fifty cases was hysteria. Spasmodic fits appeared as the predominant symptom. Some patients had shown evidence of these previous to service; in others they developed after enlistment. The fits varied from slight twitchings during perfectly conscious states to the most violent convulsions attended by unconsciousness. In one patient they assumed a most dramatic form. The man would first be overcome by a violent attack of trembling, after which he would rehearse silently some battle scene, going through the motions of loading his rifle, aiming, firing, etc., followed by a second trembling fit; then he would become calm and sink into a period of total amnesia. These patients are gener-

ally irritable and averse to discipline, but after cure many of them can be returned to the front.

The chief etiological factors are physical and mental over-exertion, shell shock, and heat stroke. The condition in one case had been caused by the man's having to spend the night near a pile of dead horses.

A number of interesting cases of hysterical paralysis are described. In one, in which the man lost the entire use of both arms after slight shell shock, it was found that the patient, ten years previous, had had a stroke of radial paralysis. His condition of shell shock showed improvement upon application of the faradic current. The writer believes that in cases of general asthenia the desire for war indemnity plays an important part. Symptomatology of several cases is given in detail.

Another group of the hysterical type is comprised of cases of psychogenic tremor and similar motor disturbances. Causative factors are shell shock, exhaustion and climatic conditions. Treatment through mental suggestion by assuring the patient that his troubles are curable and non-organic in nature seemed the most generally successful thereapeutic method. Other forms of treatment used were bromides, opium, wet packs, baths, massage and faradization. Sometimes the injection of scopolamin brought relief.

Two cases of shell shock with unconsciousness are described in which an unusual manifestation was observed—a peculiar, slow movement of the head resulting in a forced position resembling that seen in torticollis. An interesting case history of functional motor disturbance following heat stroke is cited. This patient, immediately after his stroke, was seized with spasms of the arms and tremors of the legs. The position and action of the arms was very curious. They were bent at right angles at the elbow across the chest, and then violently extended. This motion was continuous and so rapid that there were 220 flexions and extensions per minute, or 198,000 during the fifteen waking hours. In sleep they ceased. The whole body and head were involved in the shaking motion.

Epilepsy was not often found. A case is described.

The nervous pathology of shock, particularly shell shock, is discussed in detail. Among psychic causative factors are consciousness of danger, seeing a comrade suffer a horrible death, and many other conditions and events of modern warfare. Organic causes are the tremendous atmospheric pressure caused by the explosion of the shell, the poisonous gases liberated from it, and the concussion of the whole body and skull in cases in which the man is thrown down violently or blown up or against some fixed object, such as a tree or wall. Physical and mental exhaustion may produce a condition of susceptibility to shell shock, but it also occurs in strong-nerved men. In nearly all cases, the initial shock is followed by a period of unconsciousness of longer or shorter duration. Sometimes no nervous consequences follow and the men continue in the service. Symptoms in those nervously affected are vertigo, impaired hearing, headache, increased excitability of the heart and of the muscles, vasomotor disturbances and hyperemotional states. Other cases showed neurasthenic symptoms, such as trembling of the tongue and fingers, hypochondria, depression, etc. Hysteriform symptoms were exhibited by others, such as functional paralysis of both arms, trembling of the whole body accompanied by spasms, head movements and facial tics. Deafness, mutism and aphonia were frequent. Speech disturbances are discussed at length.

The writer concludes his article by brief comments upon nervous affections caused by shots through the head, and upon peripheral paralysis.

Westphal, A., and Hübner, A. H. Nervous and Mental Diseases in the War (Über nervöse und psychische Erkrankungen im Kriege) Med. Klin., Berlin, 11: 381–84 and 413–17, April 4 and 11, 1915

The writers believe that there are no real war neuroses nor psychoses—that these affections are not essentially different from those observed in times of

peace. There is a difference of opinion as to the frequency of these so-called war neuroses and in order to make this question somewhat clearer they have collected data from which the following clinical cases may be cited.

1. The patient had previously been healthy and free from mental or nervous disorders. He was exposed to shell-fire for a long time. After the near-by explosion of a shell, he was buried alive under the soil. From that time on he suffered from headaches and for a period was mentally unbalanced. At this time he received news of his captain's death, upon which he was seized with an acute attack of excitement and delirium, during which he rolled on the floor and smashed everything in his proximity. He was admitted to the hospital in a condition of stupor with alternating catatonia. After a long sleep the symptoms cleared up, but retrograde amnesia covering a period of several weeks persisted. He remembered nothing of his captain's death and subsequent events, and kept complaining of headaches. He was abnormally sensitive to noise and had visual illusions, general hyperesthesia, and complete ageusia.

2. Patient was a volunteer. Nothing was known of his heredity, but he had always been healthy. His shoulder was grazed by a shrapnel piece but no serious injury resulted. He lost consciousness and on the next day became delirious. He would leap up suddenly at night and run shooting toward the French trenches. At another time he shot towards the ceiling and cried, "The Russians are coming." He remained in this condition for two days. He suffered at first from paralysis of the right arm and leg, which later was restricted to the arm only. He also complained of headaches. He confabulated, raved at night of his war experiences, and at times was hysterical. There was complete amnesia and hyperesthesia of the right arm and shoulder, but no other symptoms.

3. This patient, a non-commissioned officer, was very excitable but otherwise healthy. His mother was very nervous. He was injured in his foot and thigh, but the wounds healed quickly. While at the hospital he slept badly and dreamed of horrible war scenes. When he first attempted to walk there were tics of the muscles of face and neck. His head was drawn backward and sideways and he made grimaces. The other symptoms were marked tremor of the upper extremities, sometimes a tremor over the whole body, slight hemi-hyperesthesia, very active tendon reflexes, vasomotor disturbances and an unsteady gait. He was easily influenced by suggestion.

From the description of these and other cases the writers conclude that clinical pictures of nervous disease among combatants vary greatly, and that they are by no means so rare as has been sometimes believed. However most cases occurred in predisposed individuals. In other instances predisposition could not be proven. The explosion of shells in the immediate vicinity, even if no physical injury results, is the most important of the direct etiological factors of nervous diseases in the war. Shell-shock has such a powerful effect upon the nervous system that it can cause severe nervous symptoms, even in non-disposed individuals. These symptoms are both of a hysterical and neurasthenic nature. Among the former are abasia, paralysis of the extremities, tremors, and disturbances of speech. The various neurasthenic symptoms are headache, vertigo, insomnia, vaso-motor disturbances and tachycardia. Some cases exhibit peculiar contractures of the muscles of the neck, conditions of utter exhaustion and general and sometimes a localized sensory hyperesthesia, often of a lasting nature. A combination of these symptoms results in the various forms of the clinical picture of traumatic neurosis. The prognosis of the traumatic war-neurosis seems more favorable than that of the pension neurosis. The number of cases of true psychoses, apart from cases of general nervous disturbances, and the "border-line" cases, was very small.

The types of war psychoses were practically the same as those in times of peace. In the manic and depressive cases there was a peculiar tendency to activity,

coexistent with loss of self-confidence, and a state of acute fear combined with motoric unrest and insomnia. A few of these cases resembled dementia precox and sometimes symptoms were observed corresponding to those of acute delirium. Men who had never displayed psychic or somatic disturbances of any kind at times showed the paralytic and tabetic symptoms of metasyphilis.

The writers then take up the medico-legal work of the psychiatrist in military services.

These questions frequently arise:

1. Is the patient fit for military service?
2. Is he entitled to claim indemnity?
3. Is he responsible for misdemeanors that he has committed?

The writers believe that the authorities should make every effort to keep men that are unfit for military service out of the army. Strict examinations should always be made, both of those who themselves claim to be unfit and of those who laud their health because of a desire for enlistment. Medical officers at the draft examination are not always at fault when mental disturbances are overlooked. The consultation of all available records of insane asylums and similar institutions as well as prophylactic measures should prevent such occurrences. The parents of boys suffering from diseases that make them undesirable for military service should be notified. Diagnosis is comparatively easy in cases of paralysis, dementia precox, amentia, paranoia, mania and melancholia. The service of moderately severe cases of neurasthenia and hysteria is always doubtful. For example, several cases of hysteria, after being honored for their valor, and at times decorated with the Iron Cross, subsequently suffered complete mental breakdown and only a few could be returned to the front. Employment behind the lines should be given in such cases. Cases afflicted with spasms, especially hysterics, have been frequently looked upon as malingerers, although various symptoms, such as fits and analgesia, were present. The number of real malingerers is not great.

The majority of cases that claimed indemnity belonged to the accident neuroses group. Claims were not granted until very detailed histories of patients were obtained. This was an important point, since cases were found that had already tried to gain compensations from various companies and had failed, after which they tried to obtain compensations from the military authorities.

The treatment of cases suffering from neurasthenia and hysteria frequently gave good results. The patients were sent out of the clinic as quickly as possible and made to resume their former occupation. This saved many from permanent incapability of work.

The writers were called upon in twenty-three cases to state their opinions in the legal procedure against enlisted men. The offenses that were committed had occurred mostly in the interior. The non-military offenses were seven thefts, one embezzlement, one case of immorality, one case of libel, and one case of wearing the Iron Cross without being entitled to it. Among the military offenses were ten cases of desertion, two of lack of respect to superiors, one of insult to superiors, two of assault, three of misuse of weapon, and one of cowardice. None of these could be termed healthy in a clinical sense. Alcohol was frequently a causal factor in these offenses. Psychopaths who had been deprived of alcohol for a long time became much excited after taking a few glasses of wine. Total abstinence would be the most desirable thing but it is hardly possible to enforce this in a large army. It is important, however, that the superior officers keep an eye on those who, in a state of intoxication, are liable to cause trouble. After a prolonged period of abstinence only small doses of alcohol should be allowed.

Several interesting cases in which alcohol was responsible for the patients' offenses are described. One is cited here. The patient's two brothers, his father, his father's two brothers, and his great uncle were heavy drinkers,

nearly all of them having shown signs of delirium. His mother had fits as a child. The patient himself had gone to school only occasionally, and then was troublesome to his teachers and rude and brutal to his classmates. He also committed thefts. After he left school he had several positions as an apprentice, but he never learned any trade. He left these positions and was finally employed as an unskilled laborer, but was again discharged because of his irritability. He then enlisted in the army. Here he got eighty-five days of confinement for disciplinary offenses. He was convicted sixteen times for brutal acts, burglary, thefts, insults, public misdemeanors and exhibitionism. Observation showed that he had a continuously sullen temper, was irritable and inexact in his statements, that he slept badly, stammered and showed many signs of degeneracy. He was tried for desertion and afterwards made two attempts to escape. At the time of committing these offenses he was without exception under the influence of alcohol. He admitted that he was very sensual and felt forced to masturbate immediately after taking alcohol, which caused him to commit his sensual offenses. The writers suspected this to be a case of epilepsy but, as the patient's statements were very unreliable, nothing further could be diagnosed. This case shows how difficult it sometimes was to come to a definite conclusion. The writers state that in cases of apparent desertion like the above, the court always assumed that they acted so only temporarily, and sentenced them accordingly.

Redlich, Emil. The War and the Nervous System (Einige allgemeine Bemerkungen über den Krieg und unser Nervensystem) Med. Klin., Berlin, 11: 469–73, April 25, 1915

The writer does not discuss organic injuries of the nervous system but limits himself to the question of the degree of resistance of the human nervous system during war time. He believes that our age is one of increased capability and nervous resistibility and that there is no justification in speaking of a progressive degeneration of the civilized nations. Two factors, however, are worthy of attention. Insomnia, especially among peasants who had never before known anything of sleeplessness, was very frequent. Dreams about war scenes seemed to disturb their sleep. There was also variation of body temperature and of heart action apparently without adequate cause.

The writer believes that in cases where a compensation does not come into consideration, a comparatively small number of wounded soldiers develop "traumatic neurosis."

Shell explosions in the immediate vicinity are one of the most frightful of war conditions. Officers have reported that whole companies that had been exposed to shrapnel showers were attacked with crying fits, vomiting and other nervous conditions, but that the psychic balance was re-established as soon as the reserves had taken their places. Even in cases where the patient had been wounded and had suffered concussion of the brain, the symptoms of a traumatic neurosis rarely develop. Another point of importance is that traumatic neurosis is a relatively benign condition.

The writer corroborates Oppenheim's statement that symptoms of traumatic neurosis often developed as an immediate consequence of the trauma even before the wish had a chance to take effect.

The prognosis of the traumatic neurosis is much more favorable now than in times of peace. This is ascribed to two facts: (1) The patients are young and healthy; (2) The incentive for obtaining a disability compensation is stronger in times of peace than now. Besides, if the patient is resigned to the thought that he will be compelled to return to the front, whether or not the nervous disorders have disappeared, he makes astonishingly rapid progress. This is especially true of traumatic neurosis in which hysterical symptoms predominate,

particularly in organic lesions of the nervous system. Therapeutic methods however are questionable because of their severity and painful nature. Many cases of hysterical paralysis and anaesthesia, tremors, peculiar astasias and abasias, which, under ordinary treatment remained uninfluenced for months, have been cured in a single sitting by the application of a strong faradic current. It goes without saying that this form of treatment removes the symptoms but not the hysteria. Isolation and a milk diet, added to this method, have given good results. Such cases are sometimes considered malingerers, but many authorities maintain that genuine malingering is very rare; it is one of the symptoms of traumatic neurosis..

The writer believes that, in cases of traumatic neurosis with neurasthenic symptoms, predisposition is an important factor. Explosions, hardships and scenes of terror, or injuries may cause the outbreak of the latent condition. On the other hand, acute exhaustion neurasthenia is very rare.

The treatment of neurasthenia is totally different from that of cases of hysteria. Many have been cured by a complete change of environment. Spontaneous or miraculous cures of neurasthenia are not possible. The psychological factor in the treatment is of the greatest importance. The patient must be convinced that his troubles have no organic basis, that his mere dislike of service at the front is not a sufficient reason for declaring him unfit for such service, that his stay at the hospital is only for the purpose of increasing his resistance to disease.

The writer has met several cases of depression, particularly in soldiers who were worried about their families left in the regions occupied by the enemy. He has also observed cases of schizophrenia, that became acute during the war, confusional states, progressive paralysis and alcoholic psychoses.

The rest of the article deals with the influence of the war upon the civilian population in regard to mental and nervous diseases. A few interesting cases are cited.

Marburg, Otto. Neurology in War (Neurologie im Kriege) Jahr. für ärtz. Fortbild., Munich, May 1915, p. 1–14

In modern warfare, injuries of the brain and of the peripheral nerves are more frequent than they have been in former wars. The recent progress in surgery, however, gives scope for greater attention to such injuries and also to those of the spinal column. Only the skilled surgeon can perform these operations, but the neurologist is constantly needed for consultation and assistance.

Bullet shots grazing the skull and injuring the skin without affecting the bony structure are important only in as much as the clinical pictures resulting from them resemble "concussion" neuroses. When the bullet strikes him, the soldier falls to the ground, remains unconscious for a few moments, vomits and has a short period of amnesia. This is therefore a typical picture of concussion of the brain. A few days later the patient is somewhat apathetic and nauseated, complains of headache and his pulse is slow. Improvement takes place after an interval of from eight to fourteen days of rest, but the headaches and the low pulse rate may persist for weeks. X-rays are absolutely essential since the inner table may not always escape injury. These shots are frequently accompanied by conditions of stupor or clinical pictures resembling Korsakoff's psychosis, or followed by neurasthenia and hypochondriasis. The prognosis is generally favorable and the treatment which consists in strict confinement to bed, at least until the pulse is normal, rarely lasts more than four weeks.

Tangential shots always necessitate operations. Even if they only injure the bone, the splinters in the inner table cause lesions of the brain. Infections, abscess formations or encephalitis often follow. In the beginning, the clinical pictures resemble those of the grazing shots. Here also there is concussion of the brain, slow pulse and headaches, but along with these, there are, according to the location of the lesion, paresis, paraplegia, aphasia and hemianopsia. The

absence of irritation phenomena even where motor areas are involved, is very striking. Paraplegia was for the most part flaccid with increased reflexes and the presence of Babinski and Oppenheim signs. The brain abscesses resulting from these shots are usually accompanied by an exceedingly subnormal temperature at about 35.9° C, bradycardia (pulse 52) and marked moroseness. At times there was a rise in temperature and leukocytosis preceding the abscess formations. An X-ray examination is absolutely essential in gaining a clear picture of the extent of the lesion. The prognosis in tangential shots is comparatively favorable, if unaccompanied by brain abscesses. The fatality is usually one in thirteen compared to brain abscesses where there are eight fatal cases out of every eleven. Surgical treatment is almost always necessary even if it may have to be postponed for a period of two or three weeks. Spontaneous cures are possible, though in such cases there is likely to be a later abscess formation.

When the projectile remains in the bony substance or the brain matter the injuries may be classed as either superficial or deep-seated. The symptoms resulting from the superficial shots are identical with those of the tangential shots. Brain abscesses usually form in front of the bullet. In such cases an operation is advisable and the prognosis is favorable but an X-ray examination is essential in diagnosis. Sometimes there are no symptoms except the initial slight concussion, and on one such occasion a soldier refused to be sent to the hospital, remaining at the front for eight days, when he showed symptoms of a brain abscess. Surgical treatment is not to be used in the case of these deep-seated shots for the abscess formation has usually penetrated the ventricles, leading to pyocephalus, meningitis, etc.

Penetrating shots that leave the brain may do so either at a distance of not more than a few centimeters from the entrance—these are known as segmental shots—or they may traverse the brain in a sagittal or frontal direction, in which case they are called penetrating shots proper. Lesions of the latter type are very frequent but the symptomatology varies. There are cases in which no clinical symptoms exist after the initial concussion and the accompanying general symptoms. Then again, regional symptoms in others are very marked. The prognosis on the whole is favorable provided there is no infection. Operations are absolutely contra-indicated.

In cases of the segmental shot, the symptomatology, prognosis and treatment are the same as for cases of tangential or superficial shots. A few cases may be cited. One shot, penetrating both mastoid processes directly behind the ear, caused cerebellar affections with peculiar disturbances of speech. Another shot, entering somewhat higher, caused cortical blindness. Still another, entering near the left eye, and leaving behind the right ear, caused the clinical picture of bulbar paralysis of the right side.

The most important complications of brain shots are pyocephalus, meningitis, cerebral hernia, ventricular fistula and cerebral prolapse. A sudden rise of temperature to 40° C, a rigidity of the whole body musculature and a decrease of the pulse rate generally indicate a rupture of the ventricle. Basal meningitis with cranial nerve involvement soon follows, but often disappears as rapidly. This picture generally corresponds to pyocephalus, the infection finding its way most likely through the foramen of Magendie. It is striking that the side away from the convex part of the bullet lesion was always the most largely involved. The question as to whether spinal puncture is necessary to relieve meningeal complications must be left open, for in two cases a cure was affected without it. The prognosis of ventricular fistula is favorable, the treatment consisting in absolute rest. Cerebral prolapse, the most frequent complication of brain shots, is due to a congestion and edema caused by infection. Another causative factor may be the premature transportation of the patient. The prognosis is favorable but the regional symptoms are mostly of a more permanent character, and disappear only when the herniae recede. There are also primary prolapses caused by the

shot itself. In these cases, surgical interference is contra-indicated since the symptoms generally disappear after a few days.

Rest is the most essential feature in the treatment of such cases. A very simple remedy consists in the local application of tincture of iodine. Pock formation and the retention of even the smallest quantity of secretions must be prevented.

The ratio between brain shots and spinal column shots is 1 to 6. Those causing lesions of the spinal-marrow indirectly are (1) bullet shots penetrating the thorax or arrested in the thorax (2) grazing, penetrating or arrested shots in the spinal column (3) shots arrested in the spinal column (4) shots penetrating the spinal marrow. The clinical picture resulting is known as "commotio medullae spinalis", where commotio implies a tearing of lymphatic capillaries. This results in the formation of edematous traumatic degeneration, etc., which in turn may cause symptoms that correspond to a typical lesion of the spinal column. The term "commotio medullae spinalis" is not very definitive. It is used mostly in connection with symptoms occurring after a heavy fall. Immediately after the accident, the patient shows paralytic weakness of the extremities but recovers without treatment in the course of three or four weeks. This is not a functional disturbance but one of an organic nature, since an increase in reflex and urinary symptoms clearly indicates definite anatomical lesion of the spinal marrow. Some of the striking features in the clinical pictures resulting from these shots may be mentioned. The symptoms appear directly after the injury. At first there is usually flaccid paralysis, but after a few days it often becomes spastic, sometimes, however, remaining flaccid for months even if the lesion is far above the centers responsible for the paralysis. A lesion in the cervical region causes flaccid paralysis of the upper and spastic paralysis of the lower extremities. Atrophy of the muscles of the hand, rectal and bladder disturbances and decubitus occur very early. The sensory disturbances are the same that we get in a transverse lesion of the cord. Above the anesthetic zones there is generally a small zone of hyperalgesia, seldom involving the whole of one or two segments. In lesions of the dorsal region we get a flaccid paralysis of the lower extremities. Lesions in the lumbar region often produce loss of patellar and Achilles reflexes with no involvement of bladder and rectum, flaccid paralysis of the lower extremities and corresponding sensory disturbances. The Brown-Séquard syndrome is frequently present. Tenderness upon pressure over the spinal column and spontaneous root-pain is very rare. Five or six weeks suffice to show clearly the possibilities for cure. The latter two conditions indicate surgical procedures. Patients with a flaccid paralysis that has lasted three or four months are frequently able to use their legs spontaneously a few weeks after the operation. Decubitus and cystitis do not contra-indicate operations unless the lesions are of a very severe nature. Pulmonary and abdominal complications do, however, call for surgical treatment.

Injuries of the facial nerves caused by bullet shots are most frequent. There were two cases of facial paralysis, however, that seemed to be of rheumatic origin.

The peripheral nerves, especially the radial and the peroneal, are involved in injuries of the extremities. A striking feature in these cases is the relative absence of pain, even when sensory nerves are injured. Sensory disturbances are slight compared with motor disturbances. The atrophic processes seem to occur later than is usually the case. Trophic and vasomotor disturbances are common and extensive. Other symptoms are coldness of the limbs, cyanosis, hyperidrosis, hyperkeratosis and changes in the hair and nails. Nerve lesions are generally complicated by extensive suppuration and therefore the consequent callus and connective tissue formations make surgical operations very difficult after a healing process of several weeks.

The best time to operate is in complete absence of any degenerative reaction. It might also be advisable to use surgical methods when a slight reaction has

started but has been stationary for a long time. An early operation is best. Slight improvements may sometimes remain stationary and then cause very irritating contractures. A trial of two or three months is sufficient however, to show whether an operation is needed or not. Palpation of the nerve for the purpose of diagnosis has been recommended in order to determine whether or not it has been severed by the shot.

Hartmann, Fritz. Training Schools for "Brain-Cripples" (Übungschulen für Gehirnkrüppel) Münch. med. Woch. 62: 769–70, June 8, 1915

A large percentage of cases of brain-injury in the present war, after more or less extensive treatment, are discharged as "surgically" cured but only a few of these are organically and functionally cured. All the rest may be classed as "brain-cripples". As a result of surgical interference in many of these cases, even if no organic lesions remain, there are permanent functional disturbances, either of a motor, psychomoter, or sensory-motor nature. These cases are different from those occurring in times of peace when most of the cases in hospitals for mental diseases are degenerate types. The war sufferers were young, strong and healthy at the time of the injury.

Therapeutic methods, too, are different in both instances. In the ordinary cases of mental disease we try to arrest, to limit or to remove the underlying causative factor, whereas in the case of the so-called brain-cripple we must deal with a completely healed wound in the brain. The scar does not become worse, no matter what functional disturbances result from it. Therefore, the brain, structurally unchanged, is capable of being restored to a marked degree. Brain-areas that are functionally related to those more or less injured adopt the functions of the latter and in this way the defect is practically made up for. The same principle also holds true for the motoric processes in the extremities, for the motor speech apparatus in central lesions and for the higher senso-motoric functions of the sensory systems. The restoration of the lost or incapacitated functions should, therefore, be the first therapeutic aim of the medical profession. This may be accomplished by means of reeducation.

This method is not new, for it is being used in the treatment of various other types of cases such as abasia, speech defects, and hemiplegia. The new schools for the training of orthopedic cripples also use the same method. It is comparatively new, however, as applied to the brain. It is practised by a special school in the University Clinic at Graz, Austria. The aims of this school are to arouse or create anew the various processes of perception, apperception, memory and orientation, to reconstruct the faculty for apprehension through the senses, to overcome defects, to do away with pathological associations and to form new ones in their stead, and to stimulate the power of abstract conception. This treatment is based more upon the pedagogical than upon the medical skill of the leaders of this school, but since the results obtained are so encouraging, a trial on a larger scale is planned.

Kastan, Max. Forensic Psychiatric Observations in the Army (Forensisch-psychiatrische Beobachtungen an Angehörigen des Feldheeres) Deutsche med. Woch., Berlin, 41: 734–37, June 17, 1915

Psychiatrists study psychic disturbances occurring in the army so as to discover the role that predisposition, bodily exhaustion and over-exertion, strong emotions, and other conditions of army life, play in the production of various

clinical pictures. Military delinquents often exhibit these pictures, so for this reason are frequently subjects of careful psychiatric study.

Extensive work along this line has been done by such men as Schultze, Meyer, Mönkeberg, and Craimer. The cases described by them include mostly desertion, abandonment of post of duty, disobedience and disrespect. In the Königsberg Clinic about fifty such cases were treated up to February 1915. Three of these were officers, seven were volunteers, eight regulars, six reservists, seventeen national guardsmen, a few belonged to the medical corps and the rest to other divisions connected with the military organization. Out of these fifty cases, four had previously been dismissed from the army, two of these on account of mental defects, five had been in asylums for inebriates and the insane, and fifteen had been previously convicted, one of them only by a military court, nine by a civil court and one had been acquitted on the strength of a medical expert's diagnosis of mental deficiency.

There were comparatively few cases of simple psychic disturbances among those that came under observation. Manic-depression and general paralysis were not present at all. There were eight cases of dementia praecox. One of these was accused of attacking another soldier with a knife During the eight weeks he was under observation he spoke only once and then just a few words. He was in bed most of the time, uttering now and then a hoarse laugh, staring at the wall, or twisting his moustache. Whenever he came to trial, he would put his hands behind his back as he did when he was arrested and tried to conceal the knife. Another case was at first very uncommunicative, irritable and excited. Gradually he quieted down and began to show interest in his surroundings. He accused his wife of being a spy, said that people wished to make a spy of him while on post duty, and thought his name had been dishonored. He had entered the army as volunteer, but deserted because he was afraid. Another case of dementia praecox attracted attention by uprooting shrubs and trees in the park in order to look for spies and enemy shells. He had invented a process, so he believed, to ozonize the "poisoned" water of the Königsberg water supply, which it was his duty to guard. He also imagined the presence of worms and bacilli in every glass of water. Because he drew plans of the aqueduct, he was accused of betraying military secrets. Another case wrote many letters to the authorities discussing the political situation in a foolish manner and was accused of lese-majesty. Two other cases had deserted and committed thefts at the same time. One of them had previously suffered from kleptomania.

There were nine cases of low-grade mental defectiveness, most of whom were accused of desertion, and of other crimes such as theft, assault, murder, mutiny, etc. One man stole a horse from a peasant, left his regiment and in his uniform went to a small town where he was known. Another case was sent to the post-office to deposit a considerable amount of money and at the same time to look for a stolen bicycle. He stayed in the city, depositing the money after several days. When he was arrested, he claimed that he had been searching for the bicycle in a distant city. His history showed that he had frequently run away from home and that he had often been convicted of fraud and embezzlement. In the case of these defectives, the combined effect of two different motives was the cause of their desertion. When they left their regiments they were too stupid to find their way back and then were overcome by fear of punishment for having stayed away so long.

The degenerates and psychopaths constituted the largest group of cases, ranging from the highly intelligent but emotionally unstable individual to the low-grade criminal. Most of these had previously shown some forms of mental abnormality and had been inmates of institutions for the mentally diseased, prisons or reformatories. Some of them seemed to derive great pleasure from decorating themselves in the most bizarre and foolish manner with crude representations of military honors and insignia. Tattooing was frequent. They

often made a practice of petty and sometimes useless thievery, stealing handkerchiefs, broken tooth-brushes, and other trivial articles. One cadet who had been recognized as a psychopath at a military academy and therefore dismissed, reenlisted in the army at the beginning of the war. After being slightly wounded in the head, he was sent to a hospital. Here he suffered from all kinds of grandiose delusions, disappeared when he was well enough to walk, but later returned to duty and spent most of his time writing poetry.

One patient showed clearly Ganser's syndrome. Two other cases of hysteria, who, in states of utter exhaustion closely resembled psychopaths, were also accused of desertion. Three cases of epilepsy were charged with desertion, when, after an absence of a few weeks, they again reported at the front, one of them saying that he had been in Petrograd. Several alcoholics were accused of disrespect, disobedience, and insult to superior officers. One of them showed a typical picture of complete amnesia. Another had killed a woman because he had been told to shoot all spies.

From these observations, the writer concludes that military conditions give a certain uniformity to all criminal acts. Individuals with strong emotions and great initiative are often guilty of disobedience and disrespect and, where these characteristics are lacking, they are usually deserters.

Wollenberg, R. Occupation Therapy in Military Hospitals for Nervous Diseases (Lazarettbeschäftigung und Militärnervenheilstätte) Deutsche med. Woch., Berlin, 41: 757–60, June 24, 1915

The most important etiological factor of nervous diseases is predisposition involving both heredity and personal experiences. Thus there may be individuals by heredity endowed with a labile mental equilibrium who lose their balance after a series of unusually exciting events. In the treatment of such cases, quieting mental influences are the only cure, and intelligent and useful occupation is the most important of these influences.

The same principle must be applied in treating patients suffering from nervous disturbances in war time since their cases are similar to those in times of peace with regard to both etiology and symptomatology. This fact is verified by the writer's experience in that all cases had shown signs of nervousness before the war. The occupation selected for such patients should be useful and should make them more contented. Moreover, no man should be forced to do something for which he has no inclination nor should he be made to do work calling for over-exertion on his part. There should also be no unfair competition with the work of the civilian population. A well-chosen occupation can make the patient stronger, improve his general condition, arouse self-confidence and in this way bring about mental equilibrium. All forms of work have been introduced such as wicker-work, net-work, fret-sawing and knitting and embroidering by machine, the making of fishing nets, hammocks, blankets and shoes from remnants. An opportunity for heavier bodily work is also afforded in the carpenters' and cabinet makers' shops and in farm-work. Business courses in typewriting, stenography, accounts, etc., are also given.

Entertainment, like work, is an important factor in psychic influence and should be often available. In the hospital there are various facilities for this purpose, the gymnasium with all its opportunities for games and exercises being an attractive center. To induce the men to take part in these exercises various rewards are offered such as better rations, personal privileges, freedom from strict supervision, and sometimes small money prizes. Formal entertainments in the evening such as concerts and recitals are not enjoyed so much as the light forms of entertainment arranged by the patients themselves.

Strict discipline, together with a close cooperation of attendants, is indispensable for success. The results obtained so far have been fairly satisfactory since

one-third of the men were discharged after a period of three months. The writer believes that the outlook for the future will be even brighter when this systematic occupation therapy will have been in force for a longer period.

Riebeth, Neurasthenia Among Soldiers (Über Neurasthenie bei Kriegsteilnehmern) Psych.-neurol. Woch., Hamburg, July 3, 1915, p. 71–76

The statement that victory in a war of to-day will go to the nation possessing the strongest nerves has been made many times. One of the nervous affections tending most to lower the power of resistance of the nervous system and the physical fitness of the soldier is neurasthenia. Observations upon 2,526 soldiers treated in a special hospital showed that neurasthenia, next to hysteria and psychoneuroses, is the most frequently found nervous disorder. True psychoses are comparatively rare. Neurasthenic states were found in all classes of the city population and in the peasantry but were not frequent among the professional and industrial classes of large cities. The etiological factors are the same in war as in peace, although the clinical pictures were somewhat affected by war conditions. These causative factors may be of a psychical or physical nature. A strict differentiation of the two can rarely be made. Usually they are coexistent. Among physical causes may be mentioned over-exertion, insufficient sleep or nutrition, loss of blood after wounds, fever, pain, suppuration and infectious diseases, especially typhoid fever. Among psychical causative factors are the tremendous nervous strain of being under fire in long battles in which heavy artillery now plays so important a part, the continuous effort to keep the attention fixed, the frightful scenes of the battlefield, mutilation of friends and comrades, and, last but not least, anxiety and worry about families left at home in probable danger.

The writer divides the symptomatology of neurasthenia into cerebral, psychic, spinal, gastro-intestinal, cardio-vascular and sexual manifestations. He groups neurasthenic disorders as to their origin, into exogenous and endogenous types. In the former the exciting cause is an injury or event affecting the nervous system of mentally healthy individuals; in the latter, the chief etiological factor is nervous insufficiency in persons with a congenital predisposition. The exogenous type is often found at the front after great battles and also at hospitals in the interior after long or arduous transportation experiences.

In such cases the clinical picture is unvaried—apathy, craving for rest and sleep, a tendency to ill humor and a desire to be let alone. More severe cases can sleep little and when they do so have terrifying dreams; they are in a continuous state of emotional excitement and fancy they have symptoms of all kinds of ailments. Usually, after a few days of rest and sufficient food, a normal state of mind is regained. Cases with onset before the war are not necessarily of endogenous origin, especially in men who have done over-strenuous brain-work and so are likely to be in a state of acquired chronic nervous exhaustion.

In most instances, rest, quiet and good and sufficient food will bring about a complete cure. Therapeutic measures should be employed, if for no other reason than for their beneficial psychic effect. These should be limited to three sittings a week. Hydrotherapy in all its forms is especially important. Diet is a chief factor. Treatment by electricity may be used to advantage. Cases of this kind are very susceptible to psychotherapeutics, in which, needless to say, the personality of the physician plays a most important part. Very nervous patients should always have a private room. Two months should be the limit for hospital stay.

The writer lays great stress upon supplying discharged patients with suitable occupation. Outdoor work is the best. Sometimes such cases may be sent

back into the service and employed at the rear of the army. Provision should be made also for cases unfit for any kind of work and so discharged. Their condition is likely to become serious again and alcohol is often an easy solace.

Binswanger, Otto. Hystero-somatic Symptoms in War Hysteria (Hystero-Somatische Krankheitserscheinungen bei der Kriegshysterie) Monat. für Psych. u. Neurol. Berlin, 38: 1–60, July and Aug. 1915

The article is based upon the experience of the writer in a hospital for nervous diseases during the first seven months of the war.

War neurology has demonstrated that emotional shock, in conjunction with other injuries, may cause a symptom complex identical in all its details with the well known clinical picture of hysteria. It is the purpose of the writer to show that these symptoms may develop also in individuals who have always been perfectly healthy and in whom no neuropsychopathic constitutional anomalies can be demonstrated.

In many cases it was proved that excessive physical over-exertion lasting for weeks, insufficient food, loss of sleep, etc., had lowered the power of physical resistance, and that emotional factors, such as the strain caused by many days in the trenches under continuous shell-fire, had prepared for the breakdown. Some violent, unexpected psychic shock was all that was necessary. A factor is here met with, which is not characteristic of the modern conception of hysteria. In the majority of shell shock cases the patients reported having been blown up often as high as ten metres, and witnesses confirmed this statement. Some said they had distinctly felt, before they lost consciousness, the tremendous atmospheric pressure caused by the explosion.

Binswanger's theory is that the mechanical injury of distinct sectors of the nervous system, which takes the form of molecular changes within injured neurons, gives the clinical picture in such cases its distinctive character. In confirmation of the same theory, hysterosomatic disturbances were found in functional regions which, before the war, had shown pathological affections. Thus, hysterical dysbasia and abasia, with or without tremor, frequently became acute in soldiers, who, before the war, had been treated for debility, tendency to fatigue, paresthesia, etc. Reports of a number of interesting cases are given showing that, in states of war-hysteria, new hysterical symptoms may appear after very slight exciting causes, but only in organs previously injured. There are, however, cases in which no such process of preparation nor preexisting organic injuries can be demonstrated, and in these the violent psychic shock alone must be considered the etiological factor.

As opposed to other observers, Binswanger considers hyperesthesia and anesthesia, hyperalgesia and analgesia the most important symptoms of such disorders as found in peace times, and that their mere existence forms a conclusive diagnosis under such conditions; however, in cases of war hysteria, hemianesthesia or hemianalgesia are seldom found because war hysterics are rarely constitutional hysterics.

The writer next discusses in detail, with illustrations, the fact that sensory and motor disturbances are always associated.

Tremor is a chief symptom of hysteria in males. Seventeen case histories are reported in detail, with prognosis. From these cases the author draws the following conclusions:

1. War hysteria, from the point of view of clinical picture and hystero-somatic complex, may be divided into two chief classes: (a) cases in which family and personal histories prove a pre-existent hysteropathic constitution; these cases are very few in number; (b) cases in which there is no proof of predisposition.

2. Cases of hysteria have developed even before the war under the influence of psychic tension, physical exertion and minor organic diseases. In such cases the chief etiological factors were emotinal, cerebral or spinal shock, and toxic effects of noxious gases. Exciting causes of both groups were over-exertion, irregular and insufficient nutrition, loss of sleep and high mental tension.

3. The hystero-somatic clinical pictures developed either immediately after the onset of the causal factor, or after a period of incubation.

4. The clinical symptoms of groups 1 and 2 are the same. However, the most varied combinations of motor sensory, angio-neurotic and secretory disturbances of an irritative or inhibitive character are found. The most frequent manifestations are tremors of all kinds, shaking dysbasias and astasias, monoplegias, monoparesis and hemiparesis with contracture, slight spastic conditions, and finally affections of the pain-sensations.

5. The theory of a psychic mechanism as the origin of these motor and sensory symptoms is not demonstrable.

6. Proof of the psychogenic character of hystero-somatic disturbances, on the other hand, can be deducted from the success of the therapeutic methods used in treatment. The case histories previously cited show that, because of erroneous opinions as to the real nature of the trouble, all sorts of physical and medical treatment proved valueless. When finally hydrotherapy and electrotherapy were used, it was always as suggestive, not physical, agents. Psychotherapy was the only treatment that promised to be generally successful. Gymnastic exercises were used, not only to increase the physical health of the patient, but also to train the attention and the will power. When the first signs of improvement occurred, to the regular treatment was added some form of occupation or recreation compatible with the patient's taste and education. Keeping the patient busy, restoring his self-confidence, and giving sympathetic encouragement brought about wonderful results, although allowance had to be made for failures. Hysteria, especially aphonia, is the most stubborn of the nervous affections to treat.

Mann, Ludwig. Disturbances following Shell-Explosions (Über Granatexplosionsstörungen) Med. Klin., Berlin, 11: 963–64, Aug. 29, 1915

There is always a question as to the nosological conception of cases resulting from shell explosions in all discussions of this subject. This is undoubtedly due to the confusing nomenclature. Some writers use the term "shell contusion", and others, Wollenberg and Westphal, speak of "shell concussion". These terms, however, apply only to one group of cases, since not all cases are characterized by a contusion or a concussion. The individual temperament is an important factor in all non organic conditions and this accounts for the great variety of clinical pictures. Other factors such as fatigue, exhaustion and emotional states are also present. For these reasons the etiological factor only should be considered and the diagnosis of such cases should be expressed as "disturbances following shell explosions".

Among the twenty-three cases observed by the writer of mental disorders following shell-fire one is of great interest in as much as the emotional state produced by his occupation, namely, that of digging and filling military graves, was a direct cause. These feelings resulted in a condition of mental dullness, during which he did not react to any external impressions. Even while his condition was improving, the mere mention of war was sufficient to cause a total relapse into his former state. The memory of the olfactory sensations received during his occupation was very painful to him.

In two cases only was alcohol an important etiological factor. Conditions of paralysis were very frequent, among them deafness, mutism and deaf-mutism.

There is still a question, however, as to whether or not the actual air contusion and detonation are to be regarded as direct causes of these conditions. This question is influenced by the fact that, in most cases, no apparent lesions exist and psychotherapy is the most efficacious treatment.

In two cases simple treatment of the laryngeal region with the faradic current brought speech back. Treatment by suggestion cured another case of deafness. This seems to demonstrate that these disturbances are of psychogenic origin. There was also a case of paresis of both legs and one arm following immediately the explosion of a shell but without any organic lesions. In two cases peculiar change in the grammatical use of language was observed. The men talked like children, for example, "I headache", "I not well". In another case the patient was relieved of the spasms of one leg and tremors by any involuntary movement on his part.

How are these conditions to be explained? In some cases predisposition could be proved but not in the majority. Most of the men were hardened soldiers who had been in the firing-line more than once. They had probably been through great hardships and deprivations and were in a condition of physical and mental exhaustion, or they were in a state of maximum mental tension. Under such conditions, the explosion makes a strong and deep impression and remains intimately connected with memory of the accompanying events.

The psychological explanation of these disturbances is only a matter of speculation. The following two theories may be suggestive: (1) An outlet for the strongest emotions at the moment is presented by the oncoming unconsciousness. There is therefore no reaction to these emotions and they are repressed. (2) Normally there exists an inhibitive mechanism preventing a centripetal stimulus from being transferred to the centrifugal paths. This stimulus first reaches the higher centers in order to cause a motor innervation. It is possible that by a coincidence of particular circumstances such as exhaustion, surprise, fright, acoustic impressions, etc., a centripetal stimulus of great strength reaches the brain so suddenly that the inhibitive mechanism breaks down, thus allowing the stimulus to reach the motor tracks and so prevent a normal innervation.

The prognosis in purely mental disturbances following explosions generally is favorable but this depends on the predisposition of the patient. A hysteric will always remain a hysteric. In a case of temporary monosymptomatic hysteria, complete rest brought about a cure. A correct early diagnosis is important, however, in order to send the patient to a special hospital without any loss of time.

Hoffmann, Rudolph. Labyrinthine Disturbances (Detonationslabyrinthosen) Münch. med. Woch. 62: 1269–70, Sept. 14, 1915

The writer emphasizes a certain symptom that he found among fifty cases of auditory injuries caused by detonations, which was hitherto practically unknown. In each case of labyrinthine shock, sensory disturbances of the external ear could be proven, but pure affections of the auditory apparatus were never demonstraable. An extreme sensibility of the external meatus to heat and cold was apparent. The disturbances of sensibility varied according to the injury done. In the most severe cases there was complete analgesia.

The sensory disturbances were not dependent on the distribution of the peripheral nerves. In most cases they involved the whole external ear and a zone of a finger's breadth around it. The writer believes that to classify these sensory disturbances as hysteria would be incorrect since there were no other clinical symptoms. Symptoms relating to the vestibular canal were of very slight prominence. Vertigo was present but soon disappeared. Spontaneous nystagmus never occurred. It may be of interest to note that collections of cerumen in the ear and chronic otitis media offered a certain protection against the effects of detonation. The treatment of these cases consisted of rest in bed for the first

few days. As internal medication twenty-five drops of tincture of valerian were given. Bromides were never used. In all such cases, suitable occupations and reading matter should be provided. The nurses should talk to the patients in clear and loud tones so that they may not realize their defects of hearing. Patients with a bilateral impairment of the cochlea nerve should be taught lip reading. A few interesting cases are described.

Weygandt, W. Observations on War Psychiatry (Kriegs-psychiatrische Beobachtungen) Psych. neurol. Woch., Hamburg, Dec. 11, 1915, p. 215–16

The writer has observed that frequently men who were absolutely healthy before the war, and some who had had symptoms of epilepsy from which they had apparently recovered, during the war developed hysterical disturbances showing epileptiform symptoms.

The prognosis in cases following shock or exhaustion is very favorable so that such cases need not be considered unfit for further service, especially as there is such a great need for recruits. When the question of indemnity arises it is difficult to state definitely, in such cases of psychic disturbance, that shock and fatigue are the only causes of the condition, but we must admit that war experiences are direct causes of the disease in individuals with a luetic taint, in manic depressives and in cases of dementia praecox.

In cases of so-called "mobilization psychosis", particularly of the catatonic or paranoid form, a latent pre-existing psychosis must frequently be assumed.

Nonne, Max. The Therapeutic Use of Hypnosis for Cases of War Hysteria (Zur therapeutischen Verwendung der Hypnose bei Fällen von Kriegshysterie) Med. Klin., Berlin, 11: 1391–96, Dec. 19, 1915

The writer has come to the conclusion, through his observations, that hysteria is the most frequent of all war neuroses. After a very clear and comprehensive definition of hysteria according to his conception of the term, he discusses diagnosis. The first point emphasized is that the clinical picture and course of the case prove absolutely the presence of a purely functional disturbance; whether in the genesis of the clinical picture mechanical, psychogenic or ideogenic factors were wholly or partly active or entirely absent is of no consequence in the practical diagnosis. To speak of cramp neurosis, akinesia, dyskinesia amnestica, fright neurosis, anxiety neurosis, cardio-vascular symptom complex, etc., has no point; this giving to certain clinical pictures names suggesting the possibility of incurability is to be strictly avoided.

Nonne found 151 neuroses among 352 nervous cases that came under his care. Yet the proportion of such cases is comparatively small when one realizes that, in making the rounds of the reserve hospitals of the —— Army Corps, among 600 patients there were only ten cases of war neurosis. The writer believes that a wrong impression as to this proportion has been spread abroad through incorrect diagnoses. He describes in detail several cases labelled as organic in which the predominant symptoms disappeared after a few hypnotic treatments, and admits that such faulty diagnoses are easily made in cases in which hysterical paralysis is associated with vasomotor disturbances. It is surprising to note the disappearance of the chief symptoms as soon as the functional vasomotor disturbances are removed.

Hysterical disturbances were usually monosymptomatic. The majority of cases had never shown any previous signs of nervous disturbance or of a neuro-

pathic condition. An initial state of unconsciousness was usual, but some cases showed no disturbance of consciousness at any time.

The writer's observations led him to the conclusion that in most cases no cure is possible. Sometimes there is a temporary cessation of symptoms, but the cure is rarely lasting or complete. Curative measures employed were hydrotherapy, electrotherapy, massage, gymnastics, and mental suggestion. Hypnotism has rarely been used, for there is a marked prejudice on the part of the medical profession against its employment as a therapeutic method. The author makes a strong plea for its use, not only in helping the patient to recover from his disabling symptoms, but also in clarifying the diagnoses of doubtful cases. In the sixty-three cases treated by him, the predominating symptoms were as follows:

Abasia astasia	14
Superior monoplegia	11
Inferior paraplegia	5
Hemiplegia	3
Mutism	5
General tremors	12
Isolated muscle contractures	6
Isolated sensory disturbances	1
Isolated tics	4
Isolated respiratory spasms	2

Of these sixty-three cases, fifty-one were cured, or rather freed of their symptoms. One case out of each of the above groups is described in detail. One quick spontaneous cure, and this only a partial one, occurred in the total number of cases. Five patients were cured by suggestion without inducing hypnotic sleep, and twenty-eight quick cures followed the use of hypnotism. In twenty-three cases gradual cures were brought about through employing hypnosis. In closing, Nonne summarizes the etiological factors cooperating in the production of the symptom complex of hysteria. Among the least important are neuropathic heredity and diathesis. Hypnosis was used with equal success for such cases and for patients who had no such abnormality. The various classes of society and city and country dwellers showed about the same degree of responsiveness to hypnotic treatment.

Löwy, Max. Neurological and Psychiatrical Observations on the War (Neurologische und psychiatrische Mitteilungen aus dem Kriege) Monat. für Psych. u. Neurol., Berlin, 37: 380, 1915

With the exception of a few cases of intercostal neuralgia, trigeminal neuralgia, herpes zoster, tetanus following dysentery and a larger number of cases of eschias, neurological and psychiatrical disturbances in the writer's regiment were rare. This regiment belonged to the "Landsturm" and was composed mostly of men between the ages of thirty-two and thirty-eight. Light beer was used on the average of from three to four pint-glasses a day. This amount was increased, however, on Sundays and holidays. Whiskey and wine were rarely used. Men such as saloon-keepers, waiters, cooks, etc., with an alcoholic predisposition, developed cases of alcoholism.

The majority of psychoses present were depression, manic-depression, and compulsive ideas on a depressive and psychasthenic basis, hypochondria, dementia precox and epilepsy. Attempts at suicide were rare. All those with manifest psychoses had been excluded at the time of the physical examination for recruits, therefore the number of cases occuring later was smaller than had been expected.

Since war is like prison in as much as it causes a total change of the conditions of life, one might expect to find clinical pictures resembling prison psychoses.

However, only two such cases occurred, one with Ganser's syndrome, and the other with paranoid phantasy symptoms accompanied by hallucinations, but with no loss of orientation.

It is also remarkable that among 1,000 soldiers who habitually used alcohol in moderate and sometimes larger quantities there was not a single case of delirium tremens after several weeks of total abstinence in spite of the presence of predisposing factors such as gastro-intestinal disturbances, fever, pneumonia, pleurisy, etc. Fresh air and vigorous exercise seemed to offset somewhat the effects of predisposition. In one case the use of alcohol after long abstinence caused a pathological intoxication.

The effects of heavy shell-fire are next in importance to alcohol as an etiological factor in psychiatric cases. Diarrhea and an increase in dysentery during heavy shell-fire was frequently observed. Paresthesia and weakness in the legs often remained days after the cannonade had ceased. Some paresthetics showed symptoms of symmetrical hysteriform analgesia of the hands and feet, most frequently of the glove and stocking type. One case complained of poor eyesight, and one showed a limitation in the field of vision. There was also one instance of traumatic neurosis with a suggestion of verbigeration. Cases of epilepsy during the march or in the fighting line were rare.

Meyer, S. War Hysteria (Kriegshysterie) Deutsche med. Woch., Berlin, 42: 69–71, Jan. 20, 1916

The clinical picture of hysteria changes with periods of time and with man. It reflects like a mirror phases of the mental states of man,—the races, classes, sexes, and different degrees and kinds of education. Hysteria always follows in the wake of great movements, therefore it is to be expected that we should find it now accompanying the world war.

A traditional theory has existed that hysterical symptoms can always be traced back to suggestion or auto-suggestion; that hysteria is really imaginary. The war has proved conclusively that the cause of hysteric states must be more than mere suggestion; that the patient must have had an actual, disturbing experience to develop such symptoms. The forms in which hysteria appears are strongly influenced by the war. For instance, hysterical paralyses are very rare among males in times of peace, but in wartime they are numerous, and were invariably, in the author's experience, sequelae of shell explosions or of injuries from bullets, resulting in inability to use the limbs. Contractures are often found and sometimes a combination of contracture and hysterical paralysis.

Prognosis in cases of hysterical paralysis following shock is usually favorable, but paraplegias resulting from bullet wounds are apt to resist treatment rather stubbornly. The writer condemns strongly the suggestion theory of the origin of hysteria in treating patients. He advocates assuring cases that their organs are intact and that they will certainly recover the use of them, but he denies that they can be "talked out of" their disease any more than that they have been "talked into it."

The exciting causes of war hysteria are varied, but all have a common element—the affective factor which is the *sine quo non* of the production of the disease. On the other hand, in the hysteria of everyday life, we have to deal with a continuation and intensification of symptoms due to some pathological organic condition.

Treatment is not easy, but is invariably successful if the patient can be convinced that he is improving.

Such cases should never be returned to the ranks, as relapses are almost inevitable.

Schultz, J. H., and Meyer, Robert. On the Clinical Analysis of the Effect of Shell-shock (Zür klinischen Analyse der Granatschockwirkung) Med. Klin., Berlin, 12: 230–33, Feb. 27, 1916

The term "shell-shock" is often applied to the diagnosis of cases where the symptoms are not all recognized. It is used in about the same way that "traumatic neurosis" is used in times of peace. "Shell-shocked" patients are those who have been in close proximity to an exploding shell, but who have not received any visible injuries. They may complain of headache, auditory and equilibratory disturbances, insomnia, changes of personality, irritative motor symptoms and tremors. All these complaints must be carefully considered, and close cooperation of neurologist and otologist is advised. The Barany test is indispensable. The writers have had their patients examined by an otologist first. He subclassified them into (a) cases with traumatic rupture of ear drum, and (b) those with the otoscopical picture of a normal drum. Both groups had an impairment of hearing in one or both ears.

The histories of patients were recorded as completely as possible. The Barany test was finally given but, since no revolving chairs were obtainable, the observations were limited to the phenomena occurring spontaneously or after caloric stimulation.

Several cases from the above mentioned groups are described. To illustrate the method of examination, a single typical case will suffice. A certain soldier came under observation three days after a shell had exploded directly in front of him. He claimed to have been unconscious for fifteen minutes, and, from that time on, to have suffered from vertigo, impairment of hearing and headache, especially over the eyes and in the occipital region. There had been no vomiting however. Otoscopy showed both drums unaffected, with normal light reflex. However the power of hearing was diminished in both ears. Family history was negative. The patient had taken part in the campaign from the beginning and had had dysentery. He now complained of "being easily startled" and of disturbed sleep. Examination showed sluggishness of pupillary reflexes to all stimuli, mild tremors of hands and tongue, and slightly increased reflexes.

The writers draw the following conclusions:

Psychopathic individuals react upon a psychophysical injury with various symptoms which are not to be explained by the nature of the injury but by the mode of reaction of the individual case. It is for this reason that predisposed individuals will invariably, in case of shell-shock, show the same type of psychopathic symptoms that would be likely to arise under other conditions of strain, A few cases are described to show that prognosis in non-predisposed individuals. even in cases of severe labyrinthic disturbance, is much better than that in predisposed persons.

As forms of treatment the authors suggest isolation, hypnosis, psychotherapy, catheterization and massage in accordance with individual requirements.

ITALIAN LITERATURE

Periodicals Abstracted

Chirurgia degli Organi di Movimento, Bologna
Giornale di Medicina Militare, Rome
Policlinico, Rome
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ITALIAN LITERATURE

Mingazzini, G. Syndromes of Organic Nervous Lesions following Shots through the Brain (Sindromi nervose organiche consecutive a lesioni da poviettli del cervello) Policlinico, Rome, 23: 409–28, Dec. 1916

The writer, as director of the clinic for nervous diseases at Rome has had ample opportunity to study cases of bullet shot through the brain. He describes in detail seven cases, which may be summarized as follows:

1. Penetrating shot through the left parietal bone, corresponding to the Rolandic area, resulted in glosso-facio-brachial paresis on the right side. The accompanying symptoms are hypesthesia, stereognosis and pain and heaviness in the region of the skull lesion. A secondary operation brought great relief.

2. Tangential shot through the left parietal bone, causing lesion of the superior part of the Rolandic area resulted in spastic hemiplegia with atrophy of the right hand and foot, muscular epileptiform spasms of the Jacksonian type on the same side, and marked motor abasia and hypesthesia, especially pronounced in the arm. An operation cleared up these symptoms, leaving only hemi-hypesthesia.

3. Penetrating shot through the antero-medial part of the right parietal bone, causing compression of the middle third of the paracentral lying underneath, resulted in severe left hypesthesia and hemiplegia. When the bone splinters had been removed, a crural monoparesis still remained, together with a more circumscribed hypesthesia.

4. Penetrating shot through the left parietal bone, injuring the underlying cerebral tissues, resulted in severe dysarthria, spastic paralysis of right side, Jacksonian epileptic fits and right hemi-hypesthesia. An operation did away with all symptoms but did not affect the sensory disorders.

5. Penetrating shot through the left parietal bone, causing lesion of the Rolandic area, was followed by complete motor aphasia, right hemiplegia and hypesthesia. Operation removed the aphasia and somewhat lessened the paralysis but did not alter the sensory disorders.

6. Serious injury to the right parietal bone caused abscess in the Rolandic area. When the abscess was healed, the following syndrome remained: spastic paralysis of the extremities on the left side, with atrophy more marked in the upper, Jacksonian convulsions in these same limbs, hypesthesia and petit mal seizures.

7. Shot through the postero-lateral region of the left frontal bone with compression of the centers of Broca and Rolando resulted in motor aphasia and right hemiparesis. An operation did away with these symptoms but a marked asthenia in the extremities of the right side and a severe dysarthria appeared. From these observations the writer draws the following conclusions:

1. Broca's region contains the speech centers and so influences directly articulation. A lesion of this area may therefore give rise to motor aphasia and sometimes to dysarthria.

2. Marburg and Ranzi's statements, that bullet injuries of the brain result at first in a flaccid paralysis which only rarely tends to become spastic, should be modified. The writer has observed many cases with persistent spastic paralysis associated with contractures.

3. Motor and sensory areas must be well separated, the latter extending in a posterior direction much farther then the former. The writer believes this, since in most cases operations cleared up the motor disturbances but did not affect the sensory disturbances.

Sandro, D. de. Functional Mutism from a Bomb Explosion and Hysterical Mutism; their Cure by Etherization (Il mutismo funzionale da scoppio di granata e quello degli isterici. Loro cura con l'eterizzazione) Riv. patol. nerv. e ment., Florence, 22: 9, Jan. 1917

A record of two cases, in a soldier aged 25 and a woman aged 35, in whom complete cure of their mutism took place after three or four minutes' inhalation of ether. The success of the treatment is attributed to the irritation of the respiratory tract in general and of the larynx in particular.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 331, Aug. Sept. 1917.

Rédard, Paolo. Inability to Straighten the Spine as Effect of War Traumatism. Chir. degli organi di movimento, Bologna, 1: 257–67, May 1917. Illus.

Rédard gives photographs of men who are unable to stand up straight, the attitude resembling that of one trying to touch the floor with his finger tips. One illustration shows twelve men with this form of contracture. The mild cases, with signs of hysteria, recover without much being done, but the medium cases require systematic treatment, and the grave cases with organic lesions in the spine and emaciation are usually rebellious to treatment. Psychotherapy and contrasuggestion are useful aids to the usual physical therapy. Men with the mild forms do best when sent home, and in any event should be kept apart from others with the same trouble. Attempts to straighten the spine should be made very gently. Forcible correction in psychoneuroses may induce deplorable aggravation. As the trouble is almost invariably curable sooner or later, the question of discharge from the army on account of disability should not be even suggested.—J. A. M. A. 70: 350, Feb. 2, 1918.

Seppilli, G. Mental Disturbances in Soldiers in Relation to War (I disturbi mentali nei militari in rapporto alla guerra) Riv. ital. neuropatol., psichiatr. ed elettroter, Catania, 10: 105–14, May 1917. References

Although there is no special war psychosis, war favours the development of some psychopathic states rather than others, especially those in which the emotional factor and physical factor constitute an important etiological element.

Among 260 soldiers admitted to the asylum at Brescia the majority presented confusional syndromes. Other psychoses were less frequent. Neurasthenia and hysterical syndromes were seen, especially those showing ambulatory determinism and other atypical forms.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 337, Aug.–Sept. 1917.

Agostini, Cesare. Use of Epileptics in the War Zone (Sulla utilizzazione degli epilettici in zona di guerra) G. med. mil., Rome, 67: 24–33, Jan. 31, 1918

Agostini seriously discusses this subject. The likelihood of seizures at inopportune moments would ordinarily eliminate the epileptic from any sort of military service. Nevertheless "epilepsy" is a very elastic term, comprising numerous conditions in which major crises do not occur, as well as states which, while attended with convulsions, belong not really under epilepsy but under psychasthenia. It is the subject who suffers only with the infrequent mild or abortive crisis or symptomatic paroxysm who could be utilized for military work. It is admitted that war has caused or awakened only a very small number of cases of

true epilepsy. Many subjects of trifling epilepsy are interned in insane asylums and prisons and some of them have learned trades and become skilled workmen. Such men are also found in civil life, supporting themselves and but little inconvenienced by their infrequent, mild seizures. Of 142 alleged epileptics referred to the author's insane asylum, not over a third proved to be true epileptics. The same overwhelming proportion of false epileptics occur in other statistics. Apparently the skilled artisans among these subjects are those most needed.—Med. rec. 93: 644, April 13, 1918.

Gatti, L. Paralysis from Shell Air Shock. Rif. med., Naples, 34: 102, Feb. 9, 1918

Gatti reports a case of extremely acute paralysis with atrophy following close on explosion of a large bomb without actual contact. The tetraplegia was of the type of anterior poliomyelitis, and Gatti assumes that the anterior portion of the spinal cord had been injured by the air contusion. He knows of only one similar case on record. The paralysis and the atrophy gradually invaded all the musculature except in the head and neck, but there were no sensory disturbances and the sphincters behaved normally. Instances of traumatic anterior poliomyelitis are on record. Some injury of the blood vessels in the bulbar region is evidently responsible for the whole set of symptoms.—J. A. M. A. 70: 1267, April 27, 1918.

LITERATURE OF THE NETHERLANDS

PERIODICALS ABSTRACTED

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

LITERATURE OF THE NETHERLANDS

Van der Hoeven, H. Psychoses in Camp. Nederlandsch tijdschrift voor geneeskunde, Amsterdam, 1: 158, Jan. 19, 1918

Van der Hoeven relates that complete anesthesia of both halves of the body was found almost constantly in the several hundred soldiers that have passed through his service for nervous and mental disease. He found further that a large percentage of the men could have the cornea struck with the handle of a percussion hammer without the least trace of pain. There was lacrimation but no pain. Restriction of the visual field was common, and urticaria was easily induced by stroking the skin. He comments on the difficulty in the military environment of examining men with psychopathies. The commander assumes simulation whenever a man with normal temperature complains of symptoms, and it is a fact that now all the manifestations of disease are more or less influenced in the soldier by his distaste for military service and his longing to go home. Entirely opposite to the experiences in civilian circles, the mobilized Netherlands soldier more or less unconsciously strives to make the most impressive presentation of his symptoms. With all other forms of disability, the classification of the men as fitted for full duty, light duty, and capable only of manual work, has proved beneficial, but not so with the psychopathies.—J. A. M. A. 70: 1046, April 6, 1918.

RUSSIAN LITERATURE

PERIODICALS ABSTRACTED

Russkiy Vrach, Petrograd

RUSSIAN LITERATURE

Soukhanoff, S. A. War Psychoneuroses. Russkiy vrach, v. 14, 1915

Soukhanoff does not admit that the war generates special psychoses which might be referred to a new definite group of mental derangement. Only the external manifestations of the usual psychoses may be modified; the essential, fundamental symptoms and signs remain unchanged. The most common psychoneurosis, the traumatic, appears in two forms: the commotional type, due to air concussion of the central nervous system, and the psychogenous hysterical type, caused by the emotional shock. Then there also occur combined forms in which the symptoms of both these types are found. In some cases, the psychogenous hysterical phenomena complicate the clinical picture of an already existing neurosis, such as psychasthenia and epilepsy. Finally, it must be admitted that air concussion may cause anatomic changes in the viscera and the central nervous system, even without external lesions.—J. A. M. A. 65: 1150, Sept. 25, 1915.

SCANDINAVIAN LITERATURE

PERIODICALS ABSTRACTED

Hygiea, Stockholm

SCANDINAVIAN LITERATURE

Nordlund, H. To Detect Simulation of Deafness. Hygiea, Stockholm, 79: 1361, Dec. 31, 1917

The long list of measures that have been proposed to detect malingering in regard to the hearing shows that none of them is absolutely reliable. Nordlund describes fourteen methods based on speech; eleven tuning fork or similar methods, and seven methods for detecting bilateral deafness. Few attempt to simulate absolute bilateral deafness; if it is attempted, the Gowseef method or the Kindlmann method is instructive. With the former, the man's back is brushed with a brush or the hand or both. Then the investigator uses only one on the subject and the other on his own coat, brushing his own coat with the brush or hand while the subject's coat is brushed with the other. The sound and the touch combine so that the normally hearing are unable to tell whether the hand or the brush is being used on their own backs. The deaf person, not hearing the sound on the other person, is able to tell by the sensation on his own back which is being used. Unilateral deafness is tested best, perhaps, with the Lombard-Bárány method, that is, the use of an apparatus that produces a noise intermittently while the subject is reading aloud in his ordinary voice. Unconsciously he raises his voice and loses control of it when he hears the noise of the automatic drum. It may be necessary to apply a number of the tests to detect the simulation; if all give concordant results, they may be accepted as conclusive.—J. A. M. A. 70: 968, March 30, 1918.

LITERATURE OF THE UNITED STATES

Periodicals Abstracted

American Journal of Public Health, Boston
American Medicine, New York City
Boston Medical and Surgical Journal
Journal of the American Medical Association, Chicago.
Medical Record, New York City
Mental Hygiene, New York City
Military Surgeon, Washington
New York Medical Journal
New York State Hospital Quarterly, Utica
Proceedings of the Boston Society of Psychiatry and Neurology
Proceedings of the New York Neurological Society
Proceedings of the United States National Academy of Sciences, Washington

LITERATURE OF THE UNITED STATES

Auer, E. Murray. Some of the Nervous and Mental Conditions Arising in the Present War. Mental hygiene 1: 383–88, July 1917

Auer advocates the assigning at base hospitals of huts to the neuropsychiatric service where soldiers suffering from functional nervous and mental conditions may receive treatment in the way of rest, isolation, proper food, etc.

The great change for the soldier usually occurs on the firing line. The average man goes into training directly from indoor office work and is greatly improved physically and morally by this training and by the outdoor life, but later the fatigue of long marches, exposure, worry, the monotony of the trenches, morbid fears, horrible sights, all tend to fan to a flame any neuropathic predisposition—and careful inquiry into individual histories has almost invariably shown that earlier neurotic manifestations can be proved in cases of nervous breakdown. Physically these individuals are of the average masculine type, often exhibiting stigmata of degeneration, such as low brow, facial asymmetry, adherent lobules, deviated septum, high palate, etc.

Auer cites briefly a number of illustrations, taken from his observations while on hospital duty with the British expeditionary force, of the numerous and varied manifestations of "shell shock".

"The element of fear or anxiety was relatively uncommon, considering the wealth of fear-producing stimuli, but in the markedly neuropathic individuals one encountered a feeling of incompetence, a fear of doing something wrong and consequently being shot, a premonition of some impending danger, a fear that something might arise in which he would fail or of going to sleep lest he should not awaken. . . .

"This outline is offered merely as a brief suggesstion of the comprehensive possibilities and the necessity for trained neurologists and psychiatrists in the present great war. Depressing as are these manifold conditions, it is with intense pleasure that one sees the usually fortunate outcome of proper care in their disappearance and the re-establishment of mental equilibium. . . . At the base hospital one can fairly well employ psychotherapy in the form of absolute quiet, isolation, re-education and persuasion, and medicotherapy, hydrotherapy and lumbar puncture when indicated. I cannot insist too strongly upon the value of quiet, rest and isolation as practiced by placing screens when available between the cots in the early control of these cases. . . . Removed from the site of trauma, the noise, and din, reassured as to safety, after a complete rest of varied duration, the individual is almost invariably able again to resume his place in civil life, where in time he looks back upon his illness, as he himself not infrequently will say, 'as a dream,' or sometimes, more fortunately, has no recollection of his experience."

Farrar, Clarence B. The Problem of Mental Disease in the Canadian Army. Mental hygiene 1: 389–91, July 1917

Of the total number of soldiers invalided to Canada, the proportion of nervous and mental cases has been fairly constant at 10 per cent, classified as follows:

1. Neurotic reactions, 58 per cent.
2. Mental diseases and defect, 16 per cent.
3. Head injuries, 14 per cent.
4. Epilepsy and epileptoid, 8 per cent.
5. Organic diseases of the central nervous system, 4 per cent.

These figures are compiled from the returns of medical boards which examine the men to determine discharge disability.

Group 1 may be subdivided as follows: (a) Constitutional neurotic temperament. More or less permanent condition aggravated during service, not necessarily at the front. (b) Somatoneuroses. Injuries and illness whether preexistent or due to service, upon which disproportionate subjective symptoms have been built, and which often long survive the actual physical disability. (c) Specific war-reactions developing in the majority of cases at the front under stress of fighting. Predisposition is of course very often demonstrable in these cases as well. Most typical of these reactions is the so-called "shell-shock," although, to be sure, this condition in common with others of the group is made up of symptoms characteristic of the neuroses in general. From the military records it is not possible to differentiate numerically these various types, but the third subgroup far outnumbers the others.

Group 2 comprises: (a) Psychoses of familiar types, the majority, as would be expected, being dementia praecox. (b) Primary mental defect. (c) Psychopathic inferiority. This condition, easily unrecognized in routine medical boards, has been the cause of many obvious difficulties. The class includes many of the inefficient and undesirable soldiers, whose history often shows that they have made good neither in civil nor military life. They are usually the trouble makers in the convalescent homes and furnish a considerable number of the men with grievances concerning pension claims and treatment of the returned soldier in general.

Group 3 is made up mostly of cases of gunshot or shell wounds of the head, with loss of bone. Strictly considered, the majority of these cases might be omitted from the categories of nervous and mental diseases. It is very rare for a head case of this sort to present symptoms of neurosis or psychosis. Variable headache and dizziness are the only fairly constant symptoms.

In group 4 the percentage of genuine epilepsy is not determinable from available records. Some of the cases with epileptiform convulsions turn out to be initial paresis, or dementia præcox, or a neurosis.

Group 5, the smallest of all, is made up chiefly of paresis and tabes, with rare diagnoses of brain tumor, multiple sclerosis, etc.

The program of differentiation and group treatment of nervous and mental conditions among returned soldiers in Canada includes:

1. A reception hospital for war neuroses and similar conditions, observation of doubtful states, etc. These cases are received at the Ontario Military Hospital at Cobourg.

2. An institution for the severe and chronic types of mental disease. Hitherto these cases have as a rule been sent to the provincial hospitals in their respective districts.

3. The establishment of an institution or colony for epileptics is under consideration.

4. The establishment of a center for the observation and treatment of syphilitic conditions is also contemplated. In most of the cases of paresis and tabes there is a pre-enlistment history of infection, but the evidence on the records points as a rule to the development of the disabling symptoms during service. The question of pensionability in many cases offers considerable difficulty. The importance of attention to syphilitic history and serological and neurological evidence of syphilis at examination of recruits is very obvious.

Hitherto where syphilitic treatment has been indicated in continuation of that begun overseas, this has as a rule been done in active treatment hospitals, while the later cases, such as paresis, have found their way to the provincial hospitals. An initial segregation of all syphilitic cases among returned men at a center where all the indications of observation, classification and treatment could be met is believed to be desirable.

5. Convalescent homes. These were the first institutions established in Canada for the reception of disabled soldiers and accommodate all types of convalescents. While there is but one special institution of each type above referred to, the convalescent homes are scattered throughout the Dominion and to them cases are transferred when treatment has reached a late stage and especially if it is desirable that an invalid should be in an institution in his home district.

The war reactions outnumber probably all other types of nervous disability combined and demand proportionate attention in management and treatment. At the special institution at Cobourg the following points are kept in mind:

(a) The maintenance of military discipline and individualized control is found to be of indispensable and first-rate importance in dealing with these cases.

(b) Hydro-and electro-therapeutic treatment is of considerable service in many cases.

(c) Occupation-therapy with suitable variety of work is of almost universal importance.

Treatment of a highly specialized sort has been developed under the auspices of the psychological department of Toronto University, following the plan of motor training applied by Dr. Franz at the Government Hospital in Washington. This method is found useful in certain cases of functional paralysis, incoordination, affect-inhibitions, tremors, and other kinetic disorders.

In the general policy of caring for the war neuroses it has been demonstrated over and over again, that patients while under treatment should be shifted as little as possible from one institution to another. It is also as a rule not well to have the patient in the vicinity of his home, and home visits are certainly contraindicated in the severer neuroses. The conscious will and purpose to get well are often difficult to establish and all opposing factors must be kept in mind.

MacCurdy, John T. War Neuroses. Psychiatric bull. 2: 243–354, July 1917

Dr. MacCurdy defines war neuroses as "those functional nervous conditions arising in soldiers which are immediately determined by modern warfare and have a symptomatology whose content is directly related to war." Two types of war neuroses exist and may be classified as (1) conditions of anxiety, and (2) conditions of simple conversion hysteria. Case histories illustrating these two types are given. The first trial the recruit usually meets is the experience of being shelled and he is immediately struck with fear. The sight of the mangled remains of comrades also creates horror and it is with great effort that the soldier is able to check his feelings and grow accustomed to these sights. Many such individuals do not fully recover from this state of mind and are therefore poorly adapted to a soldier's life. They are quickly fatigued and develop disabling symptoms. Fatigue is of great importance in the development of a neurosis as it is the almost universal occasion of the dissatisfaction with his work which leads to a breaking down of the soldier's adaptability and the development of more permanent symptoms. The conditions producing fatigue are both physical and mental. This condition is characterized by a feeling of tenseness, a restless desire for action or distraction, irritability, difficulty in concentration and a tendency to start at a sudden sound, such as that of exploding shells, without really being afraid. At night there is great difficulty in falling asleep with a long period of hypnagogic hallucinations. When sleep does come, it is troubled by dreams and therefore affords no real rest. When this condition persists for some time, fear develops and then horror at the sights of carnage. Either a physical accident or a mental shock may cause the final complete breakdown. The stuporous states that follow a concussion or some mental trauma may be characterized by a loss of consciousness followed by a period during which consciousness reappears and then subsides again. While conscious, the patient is extremely con-

fused, disoriented, complains of severe headache, is frequently incontinent or suffers from retention and may have to be catheterized. Delirium, too, at this time is a usual occurrence. In the functional type of stuporous state, the patient lies with dilated pupils, in a cold sweat, with shallow breathing, incapable of any voluntary movement and often trembling violently. When voluntary movement is possible he is dazed, inactive, confused and amnesic. In this stage of the neurosis, the patient's sleep is greatly troubled by violent nightmares and becomes something to be dreaded. Photophobia may be a frequent occurrence in the acute phases of the neuroses. Tremors are always present, and sometimes ataxia. Symptoms suggestive of disturbances of the thyroid glands are very frequent, but usually disappear in a short time. The eyes protrude slightly, and the upper eyelid may lag behind the eyeball on looking down; the pulse is rapid, there is excessive cold sweating and sometimes an enlargement of the thyroid gland. Emotional coldness and inability to express affection are frequent. These symptoms tend to subside after a few weeks, but may last months. The patient is still easily fatigued and still starts at sounds. Complications are likely to appear, the most frequent of which is depression. The patient is dissatisfied first with himself and then with the way in which he is treated. It is easy to differentiate between malingering and anxiety neuroses, since the malingerer will not speak frankly about his terror whereas the man in a true anxiety state does not try to conceal it.

The treatment of the anxiety states depends upon the individual and should be psychologically determined so that, whatever the cause, its effect may be removed. For this reason, consistent plans of treatment should be followed and patients transferred as little as possible from one hospital to another. They should be placed in a quiet environment and yet not too far away from the firing line so that they may not develop an idea of permanent freedom from military duties. The first step in treatment should be absolute rest, usually for a short time, so as to remove the fatigue symptoms. Sedatives should be used as little as possible, preferably only on the first night. The patient must then be told that he will soon recover but that he must help bring this about; that he will not be asked to do anything disadvantageous to his health but that, since his disease is curable, he will eventually have to be sent back to the line. Everything should be made as quiet and pleasant as possible for him. Occupation in some form should be provided in every case, but it should be under the control of the physician who should watch its effects on each patient. It is essential for a cure that the patient get some insight into the cause of his neurosis and that he be made to understand how he had developed a tendency to think of himself rather than of the need of the army and the country and so became a victim of fear and horror. When he sees that it was purely a selfish desire to avoid responsibility as a citizen he will try to control his symptoms. In a short time, the man worth while will be eager to help in the struggle. The physician must always sympathize with the patient as an individual but must never relax medical discipline. Many case histories are given to illustrate the course of the anxiety states.

Conversion hysterias are more frequent than the pure anxiety states but they are much simpler in mechanism than the latter. They are defined as neuroses "in which there is an alteration or dissociation of consciousness regarding some physical function." Fatigue and anxiety are important factors in these cases but to a less degree than in pure anxiety states. The symptomatology is extremely varied and consists mostly of those conditions that would provide relief from active service. Mutism, aphonia and deafness are most frequent. Motor disturbances including monoplegias and paraplegias or paresis are next in importance. Tics, spasms, contractures, tremors are very common. Hyperesthesias may occur alone whereas paresthesia and anesthesia usually accompany hysterical symptoms. Blindness, amblyopia and disorders of smell and taste are rare. There is nearly always some weariness and a distinct aversion to

fighting. The wish for a "blighty one", or some form of physical injury or disease, is present in practically every case. Occasionally the aversion to fighting is the direct outcome of physical accident or disease that removes the patient from the trenches, creating a desire not to return. This attitude constitutes the background of hysteria. When organic and functional disturbances are combined diagnosis is difficult. The functional disturbances may overlap the other and the physician may believe the condition to be non-organic. In such cases a final diagnosis may be made only after treatment on purely functional lines has been successful and has reduced the disability to its organic distribution. . . .

"Quite the most difficult problem, however, is to differentiate a conversion hysteria from malingering. As I have had little opportunity to see cases of malingering as they are presented at the front, I am unable to say much on this topic that is not second-hand. Some workers rely largely on the suggestibility of the hysterical patient as a diagnostic criterion. Occasionally one meets with a physician who goes so far as to state that no patient who is not hypnotizable has a true hysteria, and therefore must be malingering. As the individual capacity to hypnotize varies greatly from man to man this is probably a rather unsafe rule. Again, if one relies on the impression which the personality of the patient makes on the physician, error is apt to be frequent. The true malingerer is usually, if not always, a psychopath. Again it may require a rather exhaustive study to determine whether the symptoms are produced on the basis of a conscious or an unconscious wish, which is essentially the difference in etiology between malingering and hysteria. Probably the safer guide is the history of onset. One should inquire, therefore, as to the mental attitude of the patient before the symptoms began. In a true hysterical case an admission is apt to be made as to the breaking down of adaptation to warfare and the consequent wish to be rid of it all, particularly the wish for an incapacitating wound. The malingerer is not apt to reveal the history because the symptom represents this wish to him quite consciously. The hysteric, on the other hand, because there has been an unconscious motivation, does not see the connection between this previous desire to be incapacitated and the symptom his malady presents. He is, therefore, more apt to be frank in the matter. In another respect the history may be of importance, I imagine. In all the cases, which I have had an opportunity of examining, whose symptoms arose while in the trenches, there was a history either of concussion or of a definite precipitating cause, the immediate result of which was some disturbance of consciousness, no matter how slight. Frequently it amounted to no more than the patient's being dazed for a few minutes and finding himself with the hysterical symptom, when he became quite clear again. As the opinion of the physician on this matter when delivered to a court martial may mean life or death for the soldier, I would prefer to leave this last diagnostic criterion as a suggestion until such time as further experience may show whether the phenomenon in question is universal or not."

Naturally individuals with a psychoneurotic temperament are more apt to develop symptoms and, when these are removed, to develop new ones, than the more normal soldiers. However, symptoms may remain for a long time, even in the latter group, unless appropriate treatment is given.

Strict discipline has often been successful but there is always the danger that too much coercion may be regarded by the patient as unjust and therefore a firmer foundation for neurotic symptoms be laid. Treatment based on suggestion, including hypnotism augmented by electricity, has been more successful than disciplinary treatment but many objections may be made to this combined method. It is of doubtful value because it aims at the removal of symptoms rather than of causes. The patient, himself, cured in such a way, regards the treatment as a miracle and fears recurrence. The best method of treatment for the conversion hysterias is undoubtedly reeducation. The patient

should be told the nature of his symptoms and that he must help to regain the lost function. At this point suggestion may be of great value. It is also of importance that the physician establish a friendly relationship with the patient and encourage him to speak openly of his fears and troubles.

Many men are invalided from the trenches with heart symptoms, who show no signs of valvular trouble. This has been called "soldier's heart." The symptoms are weakness, shortness of breath, palpitation and dizziness. Frequently there is a region of hyperalgesia over or near the heart. It is suggested by some physicians that this "disordered action of the heart" is a form of the war anxiety neurosis. Some internists state that fifty per cent of these cases are neurotics. Among cases that MacCurdy has examined he recognized two types that correspond roughly to the anxiety and conversion hysteria groups. The first group have a strong desire for death before the actual appearance of the symptoms. In the second group there is a desire for an incapacitating wound and the heart symptoms are looked upon as a disease and not worried about. On the whole the number of cases of purely neurotic heart conditions that develop at the front is insignificant when compared to the anxiety states and common conversion hysterias.

In conclusion, MacCurdy speaks of the prophylactic measures to be taken to prevent such great loss in the efficiency of the army as war neuroses have produced. Careful exclusion of the unfit at the time of enlistment is necessary, but many difficulties arise in connection with this method. Often the man best adapted to civil life is not capable of being the best soldier. On the other hand, there are men who have shown histories of previous breakdowns, yet who turned out to be fine soldiers. The only thing to be done is to exclude all those who show marked psychopathic tendencies and who, at the time of enlistment, are ill-adapted to civil life. It would be well if the physician could reexamine all the doubtful cases after a few months of training and, if they have improved, give them a chance at the front. Another point of importance in prophylaxis is that the soldier must frequently be relieved from duty and be given as many distractions as possible. MacCurdy says: "At the present time the line officers of the British Army are as acutely aware of the necessity for rest and distraction as are the physicians, and the reason for this is that they have discovered that, no matter how much men may be forced and no matter how willing they may be to continue in the trenches, they nevertheless become inefficient when subjected to more than a certain amount of fatigue. If at all feasible, a system of relief should be worked out in a conference between psychiatrists and the staff. If also practicable, a certain laxity in the arrangements should be left whereby psychiatrists might be allowed the privilege of removing certain men from the trenches earlier than they would their fellows. If possible, this would be of great military advantage, as the histories of many patients show that, when they have an opportunity to rest, they quickly recover from the premonitory symptoms of a war neurosis and return to fight again quite competently. Once the disease has progressed beyond a certain point, however, there seems to be no return except after a long period of treatment. . . . It goes without saying that all forms of comfort and distraction, particularly the presence of palatable food and drink, are of importance from a medical standpoint in the present war as they never have been before. Where every factor seems to operate in making it hard for the soldier to maintain his adaptation—his pleasure in the service—it is essential that his difficulties should be reduced to a minimum, and that, on the other hand, he should be furnished with every possible means for giving him that pleasure which would distract his mind from all that is unpleasant and horrible around him.

"Finally, when men are sent back to rest camps in order to recover from their fatigue it would be highly desirable that they should receive an examination before they return to active duty again. As has been shown in a number of

cases in this report, the prospect of returning to duty, when recovery has not been complete, is frequently the occasion for utter discouragement and consequent collapse. In a war that may last for years an extra week or even an extra month of absence from the trenches is less loss to the army than is that which is occasioned by the protracted convalescence which follows only a week, perhaps, of efficient service. Here again the problem is reduced to a question of adapting individual treatment to the military necessities that consider all men alike."

In the course of the article twenty-seven case histories are described in detail.

Neymann, Clarence A. Some Experiences in the German Red Cross. Mental hygiene 1: 392–96, July 1917

After a five years' residence in Germany the writer had just finished his state examinations at Heidelberg and entered the department of hygiene to study serology when the war broke out. He was persuaded to join the German Red Cross, where he remained until the end of April 1915.

He states that during the early period of the war, in fact, until the battle of the Marne, not a single mental case was received at the hospital where he was stationed. This, he thinks, was probably due, partly to the attitude of the German army, buoyantly sure of speedy victory, and partly to the fact that, on account of this feeling, no provision had been made for specialized treatment of any kind, so that no attention was paid to soldiers who behaved in queer ways. When the fighting changed from open to trench warfare the whole situation was changed. Hardly a transport of sick and wounded arrived but contained its quota of mental cases. The psychiatric clinic was used only for patients with serious mental afflictions so psychoneurotics had to be treated at base hospitals. When the hospitals had no psychiatrist on their staff, these psychoneurotics were looked upon as nuisances, so were transferred to the evacuation hospitals, where they "stagnated" for a while, and were eventually returned to the front. There all their symptoms returned immediately and they were returned to the base hospitals. Sometimes single men made this circuit as many as three times. Finally the government took charge of the matter and assigned to each base hospital a psychiatrist or arranged for regular visits from one in the vicinity. These psychiatrists dealt also with cases of slackers. The government also issued a proclamation warning against returning psychoneurotic patients to the front, and recommending various duties for them in the rear or at home. This caused a great improvement in conditions.

One type of psychoneurosis was particularly frequent and noticeable. It was called *Granatfieber*, grenade fever. All suffering from it seemed poorly built physically and constitutionally weak. They complained of indigestion, backache, and headache, grew pale and trembled, and in some cases lost control of their legs and fell to the ground whenever grenades were mentioned or experiences on the firing line related.

Another class of cases consisted of individuals who had had very trying experiences which had led them to simulate some mental or physical disorder for which others had been sent to the rear. Sometimes this simulation was kept up for months. "It is hardly to be wondered at that a man who naturally has not much strength of character grows tired after months of trench life and quits, either by purposely exposing himself to the fire of the enemy, or by simulating some disorder. All such individuals were considered unfit for duty at the front."

A third type are those slightly deficient mentally. The troops from Bavaria are notably brave, yet among their wounded one finds many high-grade morons. These individuals have as a rule not proven bad soldiers.

"Of course there were all sorts of individual reactions. Those patients who had gone through depressions in previous years again became depressed. Hypo-

manic individuals became very wild and lost almost the last remnants of civilization. . . . After a rest in the hospital for a period of time they usually calmed down again and became manageable."

Salmon, Thomas W. Use of Institutions for the Insane as Military Hospitals. Mental hygiene 1: 354–63, July 1917

The British War Office asked the Board of Control in January 1915 to cooperate in an attempt to provide 50,000 beds for wounded soldiers. A plan was formulated whereby ninety-two county and borough asylums were divided into ten groups and one institution in each group vacated for military use. Major Salmon quotes in full "Circular A—Use of Asylums as Military Hospitals", describing a scheme prepared by the Board of Control for the general administration of vacated asylums and the details of reimbursement which the War Office undertook to make to receiving and vacated institutions of this kind. This is followed by "Circular B—Use of Asylums as Military Hospitals", giving in detail observations by the War Office supplementary to their general confirmation of the scheme described in Circular A. The first employment of this plan made about 12,000 beds available, and by July 1, 1917, 27,158 beds were ready for use by the War Office. Even when a military hospital was to be used for insane soldiers, the name was changed from "asylum" to "hospital" so that the patients should escape the "stigma" of having been treated in an institution for mental disease.

A list of these converted institutions follows. The total cost of turning over these hospitals was not ascertained. In the case of the Norfolk Asylum it amounted to $90,000. The capacity of the institutions was almost invariably increased.

Major Salmon next describes the changes in personnel and administration necessitated by the new use to which the institutions were put. Most of the buildings were of the cottage or small detached building type.

This article is embodied as Appendix II in Major Salmon's report upon the "Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army."

Yerkes, Robert M. Relation of Psychology to Military Activities. Mental hygiene 1: 371–76, July 1917

The article describes briefly a few of the many lines of service for national defense open to the psychologist. The writer says: "Since the psychologist deals especially with the conscious activity of men, he should be a master in the description and valuation of human nature and an expert in the measurement of significant aspects of human response. In this capacity, recruiting offers him an important special task; that namely, of classifying men according to their mental characteristics, and of indicating their degree of adequacy for military training or special tasks in the military organization. By means of especially developed and adapted methods of psychological examining, it should be possible to gain information concerning each individual upon which may be based important recommendations to medical or to line officers."

Major Yerkes believes that certain grades of mental defectives need not be excluded from military service, but that suitable places may be found for them in military as well as industrial organizations. Another point realized by psychologists is the unsuitability to military requirements of many of the current methods for psychological examination, and the necessity for preparing new and specially adapted methods. "In connection with the preliminary handling of recruits, it is the prospective function of the examining psychologist first, to aid in the elimination of those who cannot safely render service worth their hire; second, to indicate various degrees and kinds of special ability and to relate

them to the tasks of army and navy, so that each individual shall be placed in a position of maximum usefulness; and third, to detect those who, by reason of mental instability or psychopathic condition, demand the attention of the medical expert. Such individuals should be referred to the staff of the neuro-psychiatric hospital unit for special study."

In conclusion the writer outlines a few of the military applications of psychological measurements, such as in the study of gunnery, and the examination of aviation recruits.

Journal of Amer. med. assoc. 69: 1458, Oct. 27, 1917. The War and General Paralysis (Paris Letter, Sept. 27, 1917)

The three Paris societies which are devoted to the study of mental diseases, the Société clinique de médecine mentale, the Société medico-psychologique and the Société de psychiatrie, recently held two joint meetings to discuss two important questions in military mental medicine; the discharge of men with general paralysis; and shell shock with its special etiology, evolution and sequels. A whole session was devoted to each of these questions in turn, with M. Justin Godart, undersecretary of state for the military medical service, in the chair at one meeting, and Dr. Simonin, medical inspector, presiding at the second meeting.

The discussion on the discharge of soldiers with general paralysis was brought about by the extremely severe rule voted by the Société de neurologie in December, 1916, on this subject, and by the too literal application of this rule by the medical men entrusted with the task of passing on the candidates for discharge from the army. The society had officially declared that every soldier with general paralysis should be granted discharge no. 2, except when he had been the victim of traumatism of the brain, in which case discharge no. 1 should be granted with an incapacity rate of from 10 to 30 per cent.

Dr. Pactet, in the leading address, demonstrated that a doctrinal question was responsible for the vote of the Société de neurologie, namely, the belief that general paralysis is exclusively syphilitic in its origin. But to be syphilitic is not enough to bring on general paralysis. Can any one affirm that the fatigues, the emotions, the dangers of the war do not play a part in localizing, aggravating and accelerating the production of the meningo-encephalitis? Instead of regarding *en bloc* all the cases of general paralysis, each should be given a separate examination, and in each individual case the effort should be made to estimate the part for which the circumstances of war are responsible, just as is being done for the tuberculous. The military authorities must be asked for the data as to the services imposed on the patient, and if the general paralysis seems to have been influenced by them, then grant discharge no. 1, with a pretty high rate of incapacity. Dr. Lépine, professor of nervous and mental diseases at Lyons, declared his views as entirely in accordance with those of Dr. Pactet. Dr. Dupré, agrégé professor at Paris and hospital physician, insisted on the exclusively syphilitic origin of general paralysis, and demanded that discharge no. 1 should be reserved for cases in which some grave war mishap could be invoked.

Dr. Marie, physician-in-chief to the public *Asiles* of the Seine department, and Lortat-Jacob, Paris hospital physician, gave a description of the general paralysis of wartime as running a much shorter course, with no intermission, with repeated sudden attacks, and with an early fatal outcome, skipping the stage of helpless dementia. Dr. Vallon, physician-in-chief of the Asile Sainte Anne, reiterated that the interests of the patients must not be sacrificed to too absolute theories—"fragile, like all theories." In the question of discharge from the military service, as in all medicolegal problems, each case must be studied separately, and the men on active service should not be treated any less favorably than workmen becoming paralyzed after an industrial accident.

Dr. Rubinovitch, physician-in-chief of the Bicêtre and Salpêtrière hospitals, expatiated on the lessons to be learned from the Russo-Japanese War, which led to recrudescence of cases of paretic dementia in the army. Dr. Colin, physician-in-chief of the insane asylum at Villejuif, presented an array of exact data regarding the cases of general paralysis in soldiers that he has had in his charge. He remarked further that wounds of the brain are spoken of always as authorizing discharge no. 1, but in this connection it must be borne in mind that general paralysis has never been observed in men wounded in the brain. The physicians on the military discharge commissions interpret in the narrowest sense the term *traumatisme encéphalique*. The restrictions in question will not be applicable to more than a small proportion of the patients—not over 15 per cent—the majority of cases being among the territorials, the noncombatants. He then specified some cases in which the routine application of discharge no. 2 would constitute a revolting injustice.

The following rule was finally definitely adopted by a unanimous vote. For men with general paralysis, accord discharge no. 2, except in special cases in which a careful inquiry would demonstrate in times of peace, and more especially in time of war, the aggravating influence of military service. The rate of disability should then be from 60 to 80 per cent.

Mayer, Alfred G. On the Non-Existence of Nervous Shell Shock in Fishes and Marine Invertebrates. Proc. U. S. National acad. sciences. 3: 597, Oct. 1917

Mayer's experiments at Tortugas, Florida, during the summer of 1917, indicate that the nervous system of fishes and invertebrates are remarkably resistent to the injurious effects of sudden explosive shocks transmitted through the water. Many experiments were made on the *Scyphomedusa Cassiopea Xamachana*. The medusae were paralysed by removing their marginal sense organs, and then a ring-shaped strip of sub-umbrella tissue was set into pulsation by an induction shock, thus producing a single neurogenic contraction which travels through the circuit-shaped strip of tissue at a uniform rate of speed, provided that temperature, salinity, and other factors remain unchanged. It is thus possible to ascertain accurately not only the rate of nerve conduction, but also the peculiar individual characteristics of the wave in each pulsating ring. These rings were placed in a light silken bag immersed about ten feet below the surface of the sea; and then half a stick of dynamite was exploded within three feet of them. This, however, produced no effect either upon their rates or the characters of their pulsation waves, although fishes possessing swim-bladders were killed within ten feet, and injured so that they turned ventral side uppermost within twenty feet of the exploding dynamite. When the pulsating rings were placed in glass jars or tin cans, partially filled with air, the containers were crushed or shattered by the explosion, and much mechanical injury suffered by the medusa rings, which, however, could at once be restored to normal pulsation by an induction shock if their pulsations had ceased. It was also observed that the lacerated area regenerated at a normal rate. Experiments proved that fishes with swim-bladders are more sensitive to explosive shocks than those without swim-bladders; thus a half stick of dynamite exploded within 3 feet of a small shark, which has no swim-bladder, produced no apparent injury: this applied also in a lesser degree to such taleosts as lack swim-bladders. Dr. Ball dissected some of the swim-bladder fishes killed by the explosion; he found that the swim-bladder had burst, and the tissues were crushed in around it, the vertebral column being often broken. It seems, then, that in the lower forms the injurious effects of dynamite explosions, when present, are due to mechanical laceration of tissues, and especially the crushing inward of air-filled cavities. "It seems possible, therefore, that the cavities of the middle ear and

Eustachian tubes may be a source of danger to men standing near exploding shells." The writer thinks that his experiments with the pulsating rings of *Cassiopea* negative the suggested hypothesis that the sudden reduction in atmospheric pressure close to an exploding shell might set free dissolved gases in the blood and elsewhere, thus vacuolating the tissues and producing pressure and other effects upon the nerves; for no injurious effects other than those of simple asphyxiation were produced by a sudden exhaustion of the air surrounding the animals; and recovery, when they were placed in normal sea water, was almost immediate. He holds that these results are in accord with the conclusions of Grasset, Eder, Babinski and Froment, and others, that war shock is predominantly a psychic phenomenon, and being hysteria it can be cured by hypnotic suggestion.—L. J. Kidd, Rev. of neurology and psychiatry 15: 335–37, Aug.–Sept. 1917.

Salmon, Thomas W. Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army. Mental hygiene 1: 509–47, Oct. 1917

The article consists of sections of Major Salmon's report on his recent visit to England, together with an appendix entitled "Facilities Needed for Efficient Treatment of Mental Diseases in a Modern Public Institution." For abstract of the full report see p. 92–96,

Hammond, Graeme M. Neurological and Mental Examination of State Troops of the National Guard. Address at meeting of the New York Neurological Society, Nov. 13, 1917

Major Graeme M. Hammond, M.D., M.R.C., gave a general review of the work he had been doing in examination of the troops of the National Guard in this city and at the camps. When he received orders in August from the Surgeon General to examine all the militia in the vicinity of New York City, he was at first unprepared to act, for he realized his own efforts could be so small in such a tremendous task. So he enlisted the interest and assistance of twelve able neurologists and psychiatrists who agreed to help him in the work and they formed themselves into an examining board.

The troops were scattered throughout the armories here and in camps in the Bronx and Van Cortlandt Park, but the work was started, beginning with one regiment. The army surgeons with the troops could give little information as to the mental soundness of the men, though they knew all about their physical conditions, but it was soon discovered that the non-commissioned officers could give a certain amount of such information, so these men, usually sergeants, were asked to make lists of the men whom they believed would not make good soldiers. That helped a great deal. Soon experience showed that many of the candidates could be passed at a glance on the appearance they presented, but others were given a more careful examination. The intention was to dispose of those who would not make good soldiers, who would not obey orders, or who could not understand them, those with no idea of discipline, those with organic disease of the nervous system, and the mentally unstable cases. Certain regiments were found to have higher types of men than others; very few were rejected from some regiments, but in one, from a distant part of the country, sixty-three per cent were rejected. After the Rainbow Division left, nearly 4,000 men had been through this examination.

At the camps the work was not easy, for large numbers had to be examined in a day, though some of these men were of an exceedingly high class and one had no difficulty in deciding that they were all right. But some were delinquents, though not mental defectives; others were manic depressives; there were

cases of dementia precox, epilepsy, and migraine, a few spinal cases, some of progressive muscular atrophy, though only one of cerebrospinal syphilis. No cases of tabes were seen. In some regiments there were many cases of goitre, a few of them exophthalmic, but unless they presented constitutional symptoms they had not been rejected; only when they showed evidence of tremor or of physical weakness so that they could not keep up with their work, were they considered unfit for duty.

One could hardly realize the amount of work this meant. The large number of men that had to be rejected proved a revelation. The army was full of incompetents who should have been stopped before they entered if the men on the exemption boards had done their duty, and it was deeply to be regretted that such a state of affairs should exist in this age and at this crisis. In the officers' training camp there were many whom it was found necessary to reject, men of the highest type, college men, and those who had held important positions, men of affairs. Those from the West compared very favorably with those from New York State, but in one regiment of men from a large city, many of the men had been in jail or a reformatory. The cases of migraine were of interest, mostly all giving a significant family history, usually the mother having suffered from it. Those who had slight attacks were passed, but those in whom the attacks lasted two or three days accompanied by severe pain and prostration, were rejected. Epileptics were not rejected unless they were seen during a seizure by a member of the Board, or by some one on whose testimony the Board could rely. A proportion of those would probably be heard from later. There was no doubt that a certain number of cases of all kinds that should have been rejected got through. In recognition of the Surgeon General's opinion that such men were not desirable, they had been careful in going over the neurasthenics and those with hysteria.

As far as the militia, the volunteer, regiments were concerned, they would undoubtedly prove a high type of soldier, but in regard to the National Army as a whole one could not be so enthusiastic. In one day seventeen men were dismissed from the service who had been under observation in the psychiatric hospital at one camp for a number of days. This was where the heroin cases were seen, some of them coming in voluntarily because they could not obtain the drug and others sent in by the commander. It was a matter of astonishment how frequently these men were supplied with this substance by visiting friends and relatives. Of the seventeen rejected men referred to, four were cases of dementia precox; four, epileptics; eight, heroin habitués; and one was undiagnosed.—N. Y. med. j. 107: 764–65, April 20, 1918.

Hunt, J. Ramsay. Exhaustion Pseudo-paresis; Address at a Meeting of the New York Neurological Society, Nov. 13, 1917

Dr. J. Ramsay Hunt presented a résumé of the results of special neuropsychiatric examinations in one of the large training camps for officers, composed of 1,500 men, and out of this number eleven cases were found presenting slight but definite symptoms of incipient paresis, preparesis, or early cerebral syphilis, a diagnosis confirmed by examinations of the blood and cerebrospinal fluid. Generally speaking the clinical symptoms were not very marked, consisting of pupillary changes, tremors of the face and hands, and slight disturbances of articulation on repeating test phrases. The usual cerebral symptoms or evidence of mental deterioration were so slight as to be practically negligible from the diagnostic standpoint, and in studying this very important group of cases the examiner was almost wholly dependent upon those silent but well established somatic symptoms of early paresis so characteristic to the trained observer; i. e., tremors, absent or feeble reaction to light and disorders of articulation of the paretic type.

As directly bearing on this subject, emphasis was laid upon the occurrence of another group of cases which had come under observation, the formal recognition of which was of importance because of the close similarity of the somatic symptoms to those of early paresis. This condition was apparently dependent upon an exhaustion of the cerebrospinal centres as a result of the unusual strain, both mental and physical, to which men undergoing the intensive course of military training were subjected. Four cases were reported in detail, presenting slight mental and cerebral disturbances, inequality of the pupils, with extremely feeble and sluggish reactions to light, coarse tremors of the hands, face and tongue and a dysarthric disturbance of speech on repeating test phrases very similar to that observed in the early stage of paresis. The pupils in all of the cases were unequal and showed a very feeble and sluggish reaction to light. In some of the cases there was so little response as to suggest a true loss of the light-reaction. The reaction on accommodation was preserved and the sympathetic response was also elicitable; the impression of an Argyll-Robertson pupil was, therefore, produced. The tremors of the face and tongue were coarse, with associated movements of the facial muscles on speaking. In addition, fairly coarse tremors of the hands and fingers were present and handwriting was tremulous. Syllable stuttering and the dysarthric speech of paresis were closely simulated.

Clinically, the diagnosis of incipient paresis seemed assured, but the serological examinations of the blood and spinal fluid were entirely negative. There was no increase of globulin or cells, and the colloidal gold reaction was negative. Furthermore, all the symptoms cleared up after a week or ten days' rest. In the absence, therefore, of positive findings in the blood and spinal fluid and the rapid improvement under rest, it seemed clear that the condition had been produced by an acute exhaustion of the central nervous system, with somatic symptoms strongly suggestive of early paresis.

As there was association between fatigue and the production of certain toxins which act upon the central nervous system as well as upon the muscles, in addition to the theory of nerve exhaustion, a lowgrade intoxication of the nerve centres had to be considered as a possible explanation. Among these toxic products of fatigue might be mentioned such substances as carbon dioxide, paralactic acid and monopotassium phosphate. . . . Some observers, notably Weichardt, had also long maintained that a specific fatigue intoxication existed, and was the essential etiological factor in the production of its characteristic manifestations.

Among the recognized mental symptoms of fatigue was a diminished power of attention, a lack of ability to concentrate, a slow reaction to mental stimuli, slowness in reasoning, as well as errors and slowness in mathematical calculation. If these symptoms were present in any marked degree and associated with the somatic symptoms mentioned above, they might well lead to error.

It is well known that fatigue is a frequent cause of tremor, and tremor after prolonged muscular activity is well recognized. The unusual degree, wide distribution and persistence of it in these fatigue cases were probably dependent upon the prolonged mental and physical strain and a special disposition to exhaustibility of the nerve centres.

As the mechanism of speech requires a delicate coordination of the higher cortical centres and muscular activity, it is perhaps not surprising that the disturbance of articulation noted in this group of cases should have occurred as a manifestation of extreme fatigue.

More difficult of explanation were the pupillary phenomena. It was well known that during the convulsive crises of epilepsy, and even hysteria, the pupils dilated and were rigid to light. Also, in simple exhaustion, the pupils were dilated and might be sluggish to light, with reservation of the reaction on accommodation. Perhaps the suspicious pupillary phenomena observed in these

exhaustion cases were of a somewhat similar nature, possibly dependent upon a disturbance of the sympathetic innervation of the pupil by fatigue or the toxins of fatigue. The pupils, while definitely unequal, with sluggish or absent reaction to light, presented no irregularities of contour, and this might constitute an important point of difference from the true syphilitic pupil which not infrequently displays marginal irregularities.

Dr. Hunt stated that he had not observed a similar condition in civil practice, which he ascribed to the unusual etiological conditions furnished by life in a training camp, and thought that the formal recognition of a *fatigue syndrome simulating early paresis* was worthy of earnest consideration. Furthermore, it was not unlikely that under still greater conditions of stress and strain this group might be the forerunner of more severe types of the exhaustion neuroses and neuropsychoses.—J. A. M. A. 70: 11–14, Jan. 5, 1918.

Salmon, Thomas W. Neurology and Psychiatry in the Army; Address at a meeting of the New York Neurological Society, Nov. 13, 1917

The address consisted chiefly of an account of the work in neurology and psychiatry already done in armies, and that which is being planned for the future. Many illustrations from the present war were given, showing the great significance of the problem of mental disease in military services. This country has profited by the experience of foreign armies in their attempts to solve the problem, for Surgeon General Gorgas made appropriations, even before the participation of the United States in the war, for the organization of neurological and psychiatric work in the Army upon a scale never before attempted. The Medical Reserve Corps, assisted by the War Work Committees of the National Committee for Mental Hygiene, of the American Medico-Psychological Association, and of the American Neurological Society, has commissioned 222 specialists in nervous and mental diseases to serve in the various camps in this country. Medical officers stationed at all officers' training camps conduct examinations of all candidates for commissions, with the result that many cases of organic nervous disease and some of psychoses and psychoneuroses have been rejected for disability. At each of the National Army cantonment camps is a neuropsychiatric board composed of three medical officers to examine cases referred to them by line and medical officers. In addition to these tests, a system for the examination of civilians in training has been inaugurated. This will weed out cases of unfitness before the forces are sent abroad, consequently decreasing greatly the number of those who would otherwise have to be returned to this country for treatment and disability. Up to the time when the address was delivered, several thousand men had already been rejected for various forms of mental and nervous unfitness, including mental defect, epilepsy, and almost all the psychoses. Seven American specialists are in England studying shell shock and methods for its care and treatment. The expeditionary forces in France have several others, one is attached to each base hospital abroad, one to each military prison, and one will be in each delinquency battalion, when such are formed.

Special intensive courses in neurology and psychiatry have been taken by several of these medical officers who felt that they needed special training or review of previous theoretical or laboratory work.

A brief description was given of the arrangements to be made abroad for the care of functional nervous cases from the expeditionary forces, and of those likely to be returned to the United States. Major Salmon announced, with the Surgeon General's permission, the opening in the near future of the first military psychiatric hospital in this country at Fort Porter, Buffalo. Others will be opened according to future need. A special neuropsychiatric unit, with a personnel of 216 trained physicians, nurses and special workers with actual experience in the care and treatment of nervous and mental cases, has been organized and will sail soon to take charge of a special neuropsychiatric base hospital abroad.

In conclusion Major Salmon spoke of the great influence that this work in military neuropsychiatry is bound to exert upon the application of neurology and psychiatry to civil problems and conditions after the war.

Anderson, John E. Psychological Tests in the National Army; Address at a Meeting of the Boston Society of Psychiatry and Neurology, Dec. 20, 1917

As Lieutenant William S. Foster, of Camp Devens, was unable to present a communication on the above topic, Lieutenant John E. Anderson discussed the examinations of the men at that camp. He said that a psychological examination had been made on practically every man in camp. The object of the examination is two-fold: to classify the mental ability of the men as an aid to their superiors in the selection of men for appointment as non-commissioned officers and for special duties, and secondly to weed out the unfit.

The men appear for the examination in groups of from one hundred to two hundred. First a very brief literacy examination is given which separates the illiterate from the literate. The latter then take a forty-five minute test covering quite varied abilities. The illiterates are given a "skill examination" consisting of the putting together of disassembled implements, such as locks, wrenches, electric bells, and so on. Those doing poorly in either examination are recalled and examined individually. If their performance is poor enough to warrant it they are sent to the psychiatrist who examines them with a view to rejection.

On the basis of these examinations the men are grouped in five classes: the very superior, superior, average, inferior, and very inferior. The company commander receives a report on each man, to be used in any way he sees fit. He is advised that these tests get at the "intelligence factor" only, and that the final selection of a man depends also upon such qualities as resourcefulness, leadership, and courage, which cannot be measured by tests. But the tests do bring a number of the men to the fore who otherwise would pass unnoticed and so serve to give the officer the material from which to select. This has been particularly noticeable in the cases of quiet but efficient men. Each company commander submits a return report to the psychologists in which he comments on the usefulness of the test ratings and any irregularities he has noticed. These reports have been very encouraging.

Although the personnel work (*i. e.*, the ratings submitted to the officers) is of primary importance, the elimination of the mentally unfit plays a large part. The psychologists and the psychiatrists coöperate in this work.

Asked about the details of the examinations, Lieutenant Anderson said that about 150 men could be examined an hour in the groups. The examination including the seating and arrangement of the men takes an hour. The individual examination, given to the culls from the entire system of examination, takes between forty minutes and an hour. The scoring of the group examinations, which is done by clerks with stencils upon which the correct answers are designated, takes very little time. The tests include such things as the carrying out of simple commands, memory for digits, the rearrangement of sentences, arithmetic problems, etc., all aimed to give ratings on general intelligence.

Asked about the cost of the examinations, Lieutenant Anderson said that it was very small as compared with that of other examinations in the army. He said that a considerable number of the illiterates had been found. Many of these are foreigners who have difficulty with the English language. Asked about the possibility of coaching before the examinations, he said that five different forms are in use, and that the examination is such that even a repetition of it gives only a slightly higher rating.—J. nerv. and ment. dis. 47: 223–24, March 1918.

Salmon, Thomas W. War Neuroses ("Shell Shock"); Lectures, Illustrated with Motion Picture Films, Prepared by Direction of the Surgeon General for Use in the Medical Officers' Training Camps. N. Y. Natl. comm. mental hygiene, 1917. Also in Mil. surg. 41: 674–93, Dec. 1917

Major Salmon treats his subject under two main divisions: "Nature and importance of the neuroses in war"; and "Diagnosis and treatment."

"Military life," he says, "has well been called 'the touchstone of insanity'. Not only in actual war, but even in peaceful mobilizations, such as that of our own Army along the Mexican border last year, there is a higher rate of mental disease among soldiers than in civil life. The discharge rate for mental diseases in the United States Army in 1916 was three times the admission rate for these disorders in the adult male population of the state of New York, one-tenth of all discharges for disability being for mental diseases, mental deficiency, epilepsy, and the neuroses. When it is remembered that the later decades of life, in which mental diseases dependent upon organic changes in the brain are so prevalent, are not represented in military forces, it is seen that the rate in the army is greater even than is indicated by such statistics."

After a brief discussion of the peculiarly difficult problems in adaptation created by military life for neurotic or psychopathic individuals, the extraordinary prevalence of the neuroses, fairly common in civil life, but a major medical problem in war time, is commented upon. Although no new symptoms or diseases are exhibited by cases of war neuroses, or shell shock, the magnitude of the problem makes it necessary that every medical officer should become familiar with it from the point of view of diagnosis, management and military jurisprudence.

Since the term "shell shock" has unfortunately been applied rather loosely to practically any nervous condition in soldiers exposed to shell-fire, which is inexplicable by a physical injury, and has even been used to include types of mental disease, a division of these conditions into some etiological and clinical groups will help to clarify the subject. Cases in which the soldiers have been actually exposed to the effects of high explosives include:

1. Cases of death without external signs of injury. Apparently death in such cases is sometimes due to damage to the central nervous system.

2. Cases exhibiting severe neurological symptoms in characteristic syndromes suggesting the operation of mechanical factors, such as concussion, aerial compression, the rapid decompression following it, "gassing", etc.

3. Cases in which the symptoms are those of neuroses familiar in civil practice, but distinctly colored by war experience. Much controversy exists as to the mechanism of such cases of shell shock.

4. Cases in which even the slightest injury to the nervous system from the explosion is improbable and in which the war experience has not varied at all from that of hundreds of comrades who have developed no symptoms.

There is still another group of cases in which soldiers who have not been exposed at all to battle conditions develop symptoms almost identical with those in men who are supposed to be suffering from the effects of actual shell-fire. Farrar calls these "anticipatory" neuroses.

"It is the opinion of most psychiatrists and neurologists who have been studying and treating 'shell shock' in the British Army, that the last two groups named are by far the largest and most important and that, whatever the unknown physiological basis, psychological factors are too obvious and too important in these cases to be ignored." In support of this view Major Salmon states a series of significant facts based upon observations.

"The psychological basis of the war neuroses (like that of the neuroses in civil life) is an elaboration, with endless variations of one central theme—*escape from an intolerable situation in real life to one made tolerable by the neuroses.* Either a

function is lost, the absence of which releases the patient from the intolerable situation, or one is lost which interferes with successful adaptation. The function may be mental or physical." Major Salmon outlines several cases from civil life illustrating the mechanism of these neuroses. Needless to say, the same conflict, in an exaggerated form, takes place in modern warfare. Among avenues of escape from intolerable situations are wounds, capture and malingering. The last is "a military crime that is not at the disposal of men governed by the higher ethical considerations. . . .

"One of the most important features of the wide employment of the term 'shell shock' to denote the neuroses in war is its implication of a cause acting suddenly." Major Salmon then shows how "shell shock" is really the culmination of a train of symptoms, arising often from various preexisting conditions, such as strain and exhaustion, personal misfortunes, or a neurotic or psychopathic temperament.

These constitutionally predisposed individuals naturally contribute most heavily to the neuroses among soldiers, but men with apparently sound constitutions and no previous mental or nervous breakdowns are also often stricken after exhausting or distressing war experiences. Thus in shell shock the situation, apparently a very simple one in which mechanical factors predominate, is often in reality exceedingly complex and closely involved with the life experience of the individual.

In discussing the symptomatology of war neuroses, Major Salmon includes neither cases of organic damage to nerve tissue nor those suffering from transitory nervous symptoms which are curable by a short rest. The distribution of the various types of war neuroses varies according to rank. Officers generally suffer from neurasthenia, excessive fatigue both of body and mind, irritability, anxiety, and fears not directly connected with war experiences. Less common are forms of hysterical paralysis or tremor. The most striking war neuroses are those presenting the classical symptoms of hysteria in a new and often dramatic setting. "No symptom familiar to the neurological clinic is lacking among the hundreds of cases of shell shock to be found in the military hospitals in France and England. . . . In those cases, which have as their starting-point a definite shell or mine explosion, there are often symptoms which suggest concussion. Unconsciousness, dizziness, deafness, motor incoördination, and such physical symptoms as amnesia, confusion and hallucinations of hearing make up the so-called concussion syndrome." Psychical symptoms are transitory delirium, amnesia, mental confusion, hallucinations and vivid "battle dreams". Among speech disorders are aphasia, stammering, mutism and aphonia. Sensory symptoms are anesthesia, pain and hyperesthesia. Blindness, night-blindness, deafness, hyperacusis and anosmia are frequently found, also disturbances of gait, contractures, and many forms of paralysis and tremor. Disturbances of involuntary functions include tachycardia, enuresis and diarrhoea.

The question of diagnosis is most important, not only in promoting the interest of the patients but also that of the military service. It is often very difficult to distinguish organic disease and also malingered symptoms from the somatic manifestations of hysteria. Major Salmon mentions a few of the more important features in differential diagnosis. "Hysterical speech disorders usually present few difficulties in diagnosis. Aphasias are always paradoxical and accompanied by other hysterical symptoms. Stammering comes on suddenly with no history of similar speech disturbance in youth. Aphonia may be shown to be functional by a careful laryngological examination. Visual symptoms do not correspond to any organic cerebral lesions and the eye is found to be normal except for contraction of the visual fields, especially the helicoid form so characteristic of hysteria. In the rare instances in which disturbances of taste are found there is a complete bi-lateral ageusia—a symptom unknown except in hysteria—or unilateral loss corresponding with skin anesthesia, a condition which does not occur in organic disease.

"Gait disturbances not accompanied by paralysis usually simulate abnormal locomotion from physical disease or injury. Thus the gait may resemble that of congenital dislocation of the hip-joint, anchylosis of the knee or ankle, or hip joint disease—all conditions which can very readily be excluded.

"Paralyses may resemble superficially any type seen in organic nervous lesions, but never accurately. Sometimes difficulties are presented, but usually a careful neurological examination will make the situation clear. While atrophy may exist in hysterical paralyses of long duration, such cases are unlikely to come to attention in military practice except in the examination of recruits, and the electrical reactions will present error. The reflexes, especially the plantar and bladder reflexes, are of the greatest value in determining the nature of a paralysis. The distribution of local paralysis seems never, even by accident, to correspond exactly with that due to lesions of nerve roots or peripheral nerves. The posture of the paralyzed limb is rarely similar to that in a paralysis due to an organic lesion. This is especially well shown in the gait in hysterical hemiplegia, the foot being dragged with the *inner* instead of the *outer* border of the sole scraping along the floor. The enormous predominance of left-sided symptoms in hysteria should be borne in mind.

"The anesthesias of hysteria usually present no serious difficulties in diagnosis. Although it is not possible to detect all of them by such a simple expedient as asking the patient to say 'yes' when he feels the pin and 'no' when he does not, the actual reactions elicited are often quite as paradoxical. It is helpful to remember that the patient with hysterical anesthesia never suffers from his disability. You will not find cuts or cigarette burns which have been received without knowing it, as in organic cases.

"In the examination of hysterics it must be remembered that pain, anesthesia and other sensory symptoms are true hallucinations. They are often as real to the patient as hallucinations of vision or hearing, but they are subject to as wide variation in intensity and frequency. Finally one should be mindful of the fact that rarely hysteria and organic disease may exist together.

"The sudden appearance of marked incapacity without signs of injury, in a group of men to whom invalidism means a sudden transition from extreme danger and hardship to safety and comfort, quite naturally leads to the suspicion of malingering. The general knowledge among troops of the more common symptoms of 'shell shock' and of the fact that thousands of their comrades suffering from it have been discharged from the army sometimes suggests its simulation to men who are planning an easy exit from military service by feigning disease. It is therefore of much military importance that medical officers be not deceived by such frauds. On the other hand, especially before the clinical characters and remarkable prevalence of war neuroses among soldiers had become familiar facts, not a few soldiers suffering from these disorders were executed by firing squads as malingerers. Instances are also known where hysterics have committed suicide after having been falsely accused of malingering. Mistakes of this kind are especially likely to occur when the patients have not been actually exposed to shell fire because the idea is firmly fixed in the minds of most line officers and some medical men that the war neuroses are always due to mechanical shock.

"The diagnosis between neuroses and malingering may sometimes be extremely difficult, but usually it is easy when the examiner is familiar with both conditions. The difficulties arise from the fact that in both a disease or a symptom is simulated. As Bonnal says, 'The hysteric is a malingerer who does not lie.' The cardinal point of difference is that the *malingerer simulates a disease or a symptom which he has not in order to deceive others.* He does this consciously to attain, through fraud, a specific selfish end—usually safety in a hospital or discharge from the military service. He lies and *knows* that he lies. *The hysteric deceives himself by a mechanism of which he is unaware and which is beyond his*

power consciously to control. He is usually not aware of the precise purpose which his illness serves. This is shown by the fact that, in many cases, all that is necessary for recovery is to demonstrate clearly to the patient the mechanism by which his disability occurred and the end to which, unconsciously, it was directed.

"There are a number of distinctive points of difference between hysteria and malingering, two of which it may be interesting to mention.

"1. The malingerer, conscious of his fraudulent intent and fearful of its detection, dreads examinations. The hysteric invites them, as is well known to physicians in civil practice. When he has the opportunity, he makes the rounds of clinics and physicians, especially delighting in examinations by noted specialists.

"2. The hysteric, in addition to the symptoms of which he complains often presents objective symptoms of which he is unaware. The malingerer, unless of low intelligence, confines his complaints to the disease or symptom which he has decided to simulate.

"Malingering may follow or prolong a neurosis. This is not infrequently the case when mutism is succeeded by aphonia. In such cases the clinical picture presents changes very apparent to the experienced psychiatrist, but it must be remembered that malingerers, like criminals in civil life, are often very neuropathic individuals.

"The gravity of malingering as a military offense in an army in the field justifies the recommendation that no case in which the possibility of a neurosis or psychosis exists be finally dealt with until the subject is examined by a neurologist or psychiatrist. If neuropsychiatric wards are provided in base hospitals in France as well as in the United States, such an examination will be feasible in practically all cases without causing undue delay. The knowledge that malingerers are subjected to such expert examination always tends to discourage soldiers from this practice."

As to treatment, Major Salmon emphasizes the fact that therapy is essentially a psychological problem, the first step of which is a careful study of the individual case. The attitude of the medical officer is also of great importance. He must be immune to surprise or chagrin, firm in his control of the patient, yet have a sane and understanding sympathy. "The resources at the disposal of the physician in treating the war neuroses are varied. The patient must be re-educated in will, thought, feeling and function. Persuasion, a powerful resource, may be employed directly, backed by knowledge on the part of the patient as well as the physician of the mechanism of the particular disorder present. Indirectly, it must pervade the atmosphere of the special ward or hospital for 'shell shock.' Hypnotism is valuable as an adjunct to persuasion and as a means of convincing the patient that no organic disease or injury is responsible for his loss of function. Thus in mutism the patient speaks under hypnosis or through hypnotic suggestion and thereafter must admit the integrity of his organs of speech. The striking results of hypnotism in the removal of symptoms are somewhat offset by the fact that the most suggestible, who yield to it most readily, are particularly likely to be the constitutionally neurotic. In such cases we are using to bring about a cure, a mental mechanism similar to that which produced the disorder.

"Recovery within the sound of artillery, or at least 'somewhere in France,' is more important and durable than that which takes place in England. This is a very important fact and the brightest spot in the rather dismal picture presented by these disorders. . . . For severe cases and those which through mismanagement have developed the unfortunate secondary symptoms of 'shell shock' and in whom long-continued treatment is necessary, a rural place is best.

"Reëducation by physical means is a valuable adjunct to treatment in recent cases, but particularly in chronic cases who have been mismanaged and in those

who are recovering from long-continued paralyses, mutism and gait disorders. While drills and physical exercises have their specific uses, occupation is the best means. Non-productive occupations should be avoided."

Occupations may be divided into three classes: bed, indoor, and outdoor. Under class 1 may be included basket and net making, preparation of surgical dressings, and various minor finishing operations. "All occupations, especially those which are carried on by patients seriously incapacitated, should be regarded only as steps in a process of progressive education. Every effort must be made to prevent skill acquired in them from being considered as a substitute for full functional activity. Herein is an important difference between the re-education of neurotic and orthopedic cases." Indoor occupations include carpentry, wood carving, metal and cement work, printing, bookbinding, cigarette making, and electric wiring. Outdoor work may consist of farming, gardening and building operations, wood sawing and chopping, and the care of small stock not requiring much land.

"Before even the simplest occupation can be engaged in it is sometimes necessary to reëducate paraplegics and ataxics in walking and coördination. Just as soon as possible exercises should be replaced by productive occupations which will accomplish the same results more quickly and more satisfactorily. This is true of gymnastic exercises which in the early steps of treatment constitute a valuable resource but which should be replaced by specially devised useful tasks. Swimming has an unique place in the treatment of gait disturbances, paralysis and tics. One of the first pieces of construction undertaken by the outdoor patients at a reconstruction center should be that of building a large concrete swimming tank.

"Hydrotherapy and electrotherapy have a distinct value when they are applied with absolute sincerity and full realization on the part of the patient and medical officer of the role that they actually play in the treatment of functional nervous diseases.

"The experience of English hospitals has demonstrated the great danger of aimless lounging, too many entertainments and relaxing recreations, such as frequent motor rides, etc. It must be remembered that 'shell shock' cases suffer from a disorder of will as well as function and it is impossible to effect a cure if attention is directed to one at the expense of the other. As Dr. H. Crichton Miller has put it, 'shell shock' produces a condition which is essentially childish and infantile in its nature. Rest in bed and simple encouragement is not enough to educate a child. Progressive daily achievement is the only way whereby manhood and self-respect can be regained.'"

Salmon, Thomas W. Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army. N. Y., Natl. comm. mental hygiene, 1917. 102 p. Bibliography

Major Salmon introduces his report as follows:

"No medico-military problems of the war are more striking than those growing out of the extraordinary incidence of mental and functional nervous diseases ('shell shock'). Together these disorders are responsible for not less than one seventh of all discharges for disability from the British Army, or one third if discharges for wounds are excluded. A medical service newly confronted like ours with the task of caring for the sick and wounded of a large army cannot ignore such important causes of invalidism. By their very nature, moreover, these diseases endanger the morale and discipline of troops in a special way and require attention for purely military reasons. In order that as many men as possible may be returned to the colors or sent into civil life free from disabilities which will incapacitate them for work and self-support, it is highly desirable to make use of all available information as to the nature of these diseases among

soldiers in the armies of our allies and as to their treatment at the front, at the bases and at the centers established in home territory for their reconstruction. England has had three years' experience in dealing with the medical problems of war. During that time opinion has matured as to the nature, causes and treatment of the psychoses and neuroses which prevail so extensively among troops. A sufficient number of different methods of military management have been tried to make it possible to judge of their relative merits. My visit to England was for the purpose of observing these matters at first hand so that I might contribute information which might aid in formulating plans for dealing with mental and nervous diseases among our own forces when they are exposed to the terrific stress of modern war."

The report does not include any account of the treatment of organic nervous diseases nor of injuries to the central or peripheral nervous systems, nor did Major Salmon have time for any original clinical observations.

As to prevalence of mental diseases in military services the following quotation will be of interest:

"On March 31, 1917, about 1.1% of all patients in the military hospitals of Great Britain were officially diagnosed as insane. The percentage among expeditionary patients was 1.3, and among non-expeditionary patients 1.1. The enormous prevalence of wounds in patients from the expeditionary troops reduces the percentage of all other conditions, so the excess of mental cases among expeditionary cases is much greater than is apparent. Among non-wounded expeditionary patients the percentage was about three times that among the non-expeditionary cases. The rate among officers was only one third that among men in expeditionary patients and about the same in non-expeditionary patients. This has an important bearing upon the fact that the rate for the war neuroses ('shell shock') is four times as high among officers as among men. . . . It can be estimated, from all the data available that the annual admission rate to the British military hospitals for the insane is about 2 per 1,000 among the non-expeditionary troops and about 4 per 1,000 among expeditionary troops. The rate in the adult male civil population of Great Britain is about 1 per 1,000."

Several special war hospitals for the treatment of mental cases have been established in the United Kingdom through the taking-over for this use of county and borough asylums. This subject is discussed in Appendix II of Major Salmon's report. There were at the time of the completion of the report about 3,400 beds in strictly military hospitals available in Great Britain and Ireland for insane soldiers. "No attempt has been made to care for the insane in France, the policy of the War Office being to send all cases to the clearing hospital at Netley and then to special institutions as soon as possible. There are available in France only 125 beds, all for the temporary detention of mental cases."

During 1916 the number of mental cases passing through the 3,400 beds available for their care in Great Britain and Ireland was about 6,000.

No new clinical types of mental disease have been observed in armies. "There are no 'war psychoses'. The clinical pictures familiar in civil life are seen, colored often by the experience at the front, but for the most part unchanged in their symptomatology, outcome and course. The distribution of the various psychoses has been strikingly different from that in civil life, but this has been chiefly due to the different age periods represented in patients from the army. The absence of the organic mental diseases of the later decades of life, which play so large a part in civil statistics, has resulted in abnormally high percentages for other psychoses."

About 18% of the patients admitted to military hospitals for mental diseases have been found mentally defective. Major Salmon believes, in spite of arguments advanced to the contrary, that experience in the present war has proved that mental defectives should be debarred from military service except when the last available man-power must be utilized. Under such circumstances, they

should be kept at work at the rear under the supervision of non-commissioned officers specially trained in their management.

Cases of general paresis amounted to about 2% of the mental patients received in special hospitals. Experience in the British Army and Navy has shown that no person with the slightest indication of syphilis of the central nervous system should be enlisted or commissioned for any military duty.

Manic-depressive insanity is present in about 20% of all admissions to military hospitals for mental disease.

Alcoholic psychoses are now found almost entirely in patients on leave from the front. Delusional types appear in older men stationed at bases where opportunity is afforded to continue life-long habits of drinking to excess. Attempted suicides are very frequent among alcoholics in military service. Alcoholics should be debarred from the service.

Patients suffering from dementia precox constitute 14% of admissions. Most cases appeared shortly after enlistment and the individuals were probably psychopathic.

Many cases of epilepsy observed had had the disease before enlistment.

A very large number of cases of constitutional psychopathic states have been received in the special military hospitals for mental diseases.

As to prognosis, Major Salmon says: "There are no statistics available to show the outcome in the mental diseases treated in military hospitals. Discharge is much more likely to be regulated by administrative considerations than by clinical ones. Acute conditions seem to recover very quickly. Few return 'to first line duty'. The statistics indicate a much larger proportion than is actually the case. The number of those who go back to the colors is made up for the most part of patients who have recovered from delirium tremens and those with war neuroses who have been incorrectly admitted to institutions for the insane. Infective-exhaustive psychoses are much more likely to be regarded as 'shell shock' than as mental disorders. The hospitals for mental diseases fail, therefore, to get these very recoverable cases and the recovery rate in such institutions suffers correspondingly. . . .

"For the United States, Great Britain's experience carries important lessons. More important than all others is the result of careless recruiting. The problem of dealing with mental diseases in the army—difficult at best—has been made still more so by accepting large numbers of recruits, who had been in institutions for the insane or were of demonstrably psychopathic make-up. The next most important lesson is that of preparing, in advance of an urgent need, a comprehensive plan for establishing special military hospitals and using existing civil facilities for treating mental disease in a manner that will serve the army effectively and at the same time safeguard the interests of the soldiers, of the government and of the community."

Section II of Major Salmon's report is devoted to general observations upon the nature of war neuroses or shell shock. This section of the report is virtually a more detailed discussion of the same subject matter as the pamphlet by Dr. Salmon entitled "War Neuroses (Shell Shock)" and abstracted on p. 88–92, so the abstract will not be repeated here.

Section III is entitled "Recommendations for the United States Army." Major Salmon says: "It seems desirable to consider separately in these recommendations, expeditionary and non-expeditionary forces. It is necessary to deal separately with mental and nervous diseases in the United States but not in France. While facilities existing at home can be utilized for the treatment of mental diseases, it is necessary to create new ones for the treatment of the war neuroses. In France, where all facilities for treatment must be created by the medical department, the distinction between psychoses and neuroses need not be drawn so closely. Consequently, simpler and more effective methods of administrative management can be devised".

One important feature is to have at our disposal a personnel of specially trained medical officers, nurses and civilian assistants and an efficient mechanism for treating mental and nervous cases in France, evacuating them for continued treatment, when necessary, to the United States.

Most important is the rigid exclusion of insane, mentally defective, psychopathic and neuropathic men from expeditionary forces.

Major Salmon next summarizes his recommendations as applied to the expeditionary forces as follows:

"*Overseas*

1. *Base Section of Lines of Communication*
   (a) A Special Base Hospital of 500 beds for neuropsychiatric cases, located at the base upon which each army (of 500,000–600,000) rests. These special base hospitals to be used for cases likely to recover and return to active duty within six months. Other cases to be cared for while waiting to be evacuated to the United States.
   (b) One or more Special Convalescent Camps in connection with (and conducted as part of) each Special Base Hospital.
2. *Advanced Section of Lines of Communication*
   (a) Special Neuropsychiatric Wards of 30 beds in charge of three psychiatrists and neurologists for each base hospital having an active service. These wards to be used for observation (including medico-legal cases) and for emergency treatment of mental and nervous cases.
   (b) Detail of a psychiatrist or neurologist attached to the neuropsychiatric wards of base hospitals, to evacuation hospitals or stations further advanced as opportunities permit.

"*United States*

1. *Mental Diseases (insane)*
   (a) One or more Clearing Hospitals for reception, emergency treatment, classification and disposition of mental cases among enlisted men invalided home.
   (b) Clearing Wards (in connection with general hospitals for officers or private institutions for mental diseases) for reception, emergency treatment, classification and disposition of mental cases among officers invalided home.
   (c) Legislation permitting the Surgeon General to make contracts with public and private hospitals maintaining satisfactory standards of treatment for the continued care of officers and men suffering from mental diseases until recommended for retirement or discharge (with or without pension) by a special board.
   (d) Appointment of a special board of three medical officers to visit all institutions in which insane officers and men are cared for under such contracts to see that adequate treatment is being given and to retire or discharge (with or without pension) those not likely to recover.
2. *War Neuroses ('shell shock')*
   (a) Reconstruction centers (the number and capacity to be determined by the need) for the treatment and re-education of such cases of war neuroses as are invalided home. Injuries to the brain, cord and peripheral nerves to be treated elsewhere.
   (b) Special convalescent camps where recovered cases can go and not be subject to the harmful influences for those cases which exist in camps for ordinary medical and surgical cases.
   (c) Employment of the Special Board of medical officers, recommended under '1 (d).' to visit all re-education centers and convalescent camps in which war neuroses are treated to see that adequate treatment is being given and to retire or discharge (with or without pension) those not likely to recover."

This summary is followed by a detailed discussion of each recommendation. A chart illustrates the career of disabled returned soldiers.

About the care and treatment of war neuroses and mental diseases in non-expeditionary forces, Major Salmon says: "Facilities for the treatment of neuro-psychiatric cases at the camps in the United States have been approved by the Surgeon General and are now being provided. These will undoubtedly prove sufficient for dealing temporarily with mental cases developing in the non-expeditionary forces. Their final disposition should be made by means of the same mechanism recommended for expeditionary patients who are invalided home, except that the functions of the clearing hospital for mental diseases can be performed by the neuro-psychiatric wards of divisional hospitals and that of the special board by the Board of Survey composed of the neurologists and psychiatrists stationed at the camps."

Appendix I is a list of references in English to mental diseases and war neuroses and their treatment and management, including 141 entries.

Appendix II describes the use of institutions for the insane as military hospitals.*

Appendix III consists of a directory of special military hospitals for mental diseases and war neuroses in Great Britain and Ireland.

Appendix IV is a list of facilities needed for efficient treatment of mental diseases in a modern public institution.

Bost. med. and surg. j. 178: 24–25, Jan. 3, 1918. Organic Lesions in Shell-Shock (Editorial)

Recent observations on the various fronts tend to show that shell-shock is the expression of a cell-exhaustion of the central nervous system. It is generally accepted by neurologists that this exhaustion is accompanied by pathological lesions of the cytoplasm. It is, perhaps, doubtful whether this change is invariable, and the laws governing it are still very imperfectly known, but, as a broad fact, it is certainly true. Such lesions may be divided into two main groups. First, those which are visible after proper staining of some particular cells or substance of the brain. These have been observed recently, and they seem to lie at the root of fatal cases of shell-shock. Secondly, those which connote a diminished potentiality for the development of nerve force of such a nature as to impair the value of the cell. These are types of degeneracy which appear in spite of a satisfactory military training and environment. It is this latter class that alienists like Sir George Savage and Sir Robert Jones have described in the Journal of Mental Science. These authors seem to understand by the disposition to shell-shock a marked falling away, mentally, morally, and physically, from the average condition of the soldier or race. Thus, among British soldiers, the habitual criminal and the morally perverse, the mentally unstable and insane, the physically weak and ill-developed are often spoken of as predisposed to shell-shock. But there are also cases in which it occurs, in spite of hygienic surroundings, the best heredity, and the most careful education. It follows that shock or fear or the dread of the "unknown," of sufficient severity to overwhelm the will, may cause in healthy men the whole syndrome of the affection —the unconsciousness, aphasia, abasia, and pseudo-paraplegia. It is shown by Nissl and by Nonne that the power to resist the highest degree of fear, as in drumfire, explosion of mine craters, etc., necessitates the presence of the maximum nervous potentiality plus an optimum constitution. This is the meaning of Dr. Mott's phrase that many cases of shell-shock are the neuro-potentially unfit.

There are three chief views as to the causation, which have been fully discussed by Wollenberg (Archiv für Psychiatrie, 1916, p. 335), and more recently by two

* For abstract of Appendix II, see p. 80, Salmon, Thomas W. Use of institutions, etc.

Italian neurologists, Lattes and Goria (Archivio di Antro-pologia Criminale, April, 1917). The first is, that shell-shock is not the expression of a pathological cell change, but the sign of a defect which exists in certain strains or stocks, and which most writers describe as psychoneurosis, hysteria, suggestibility, and degeneracy. On this view it is presumed that the innate nerve potentiality has been impaired by congenital or acquired hysteria and neurasthenia; it includes, besides, the types of degeneracy as seen in idiots, epileptics, and paranoiacs. In modern armies these groups are found, which obviously shows the importance of a minute family and individual history in the examination of soldiers. The second view is that the syndrome of shell-shock is not the result of defects or atavistic causes, but arises of itself; in other words, it is psychogenic. Most writers agree that these cases—the functional, emotional, the hysterical in the usual sense—are the most numerous. As Wollenberg says: "In the bulk of the cases of shell-shock (Granatkontusion) the emotional factor far outweighs the commotional." Dr. Mott and other British authorities take this view, but they have considerably narrowed the definition of hysteria.

The third classification is that the causes of shell-shock—whether they have existed *ab initio* in the soldier's nervous system or whether they are psychogenic in origin—are physical processes, organic lesions, produced by the effects of long exposure to the gases, and other results of the bursting of powerful shells. In this place reference may be made to a recent work by Homburger (Die körperlichen Erscheinungen der Kriegshysterie). This author looks upon the question in a twofold way; either the idea of pure hysteria must be abandoned, or this form of hysteria must be sharply differentiated from hysteria with organic lesions. Most neurologists at the front find it exceedingly difficult to believe in traumatic hysteria (Oppenheim's) or molecular shock (Charcot's). Actual observers found that of 74 men examined after an artillery attack, 67 showed unmistakable signs of localized organic lesions of the central nervous system.

These lesions have now been studied post mortem by Dr. Mott and Captain Hurst. They, as well as French, Italian and Russian neurologists have observed: (*a*) Early generalized chromatolytic changes in the cells of the central nervous system, (*b*) disappearance of the basophile substances, (*c*) extravasation of blood into the substanceof the brain, (*d*) punctate hemorrhages with congestion of the meninges, (*e*) minute hemorrhages and changes due to the effects of compression and decompression, that is to say, as in caisson disease, with cerebrospinal fluid under high pressure, albumin, blood, and excess of lymphocytes. It has been noticed by several observers that the clinical signs are those of organic changes; and Homburger, Mörcher, and Nissl believe that the war has altered our conceptions of hysteria though it has produced no new type. Nissl, in particular, appears to question the existence of the "hysterical personality." Shell-shock is that condition of nervousness which results from the exhaustion of the inherent vitality of the cells. They are unable to function because they have come to the end of their physiological banking account. In fact, to Nissl most cases are due to a completely human and normal weakness, and the organic lesions, it might be added, are equally likely to be due to the action of inorganic poisons, as gas, and physical agents, concussion and commotion.

Bost. med. and surg. j. 178: 60–62, Jan. 10, 1918. Shell-Shock and the American Army (Editorial)

No medico-military problems of the war are more striking than those growing out of the extraordinary incidence of mental and fuctional nervous diseases ("shell-shock"). Together, these disorders are responsible for not less than one seventh of all discharges for disability from the British Army, or one third, if discharges for wounds are excluded. A medical service newly confronted,

like ours, with the task of caring for the sick and wounded of a large army, cannot ignore such important cause of invalidism. By their very nature, moreover, these diseases endanger the morale and discipline of troops in a special way, and require attention for purely military reasons. In order that as many men as possible may be returned to the colors or sent into civil life free from disabilities which will incapacitate them for work and self-support, it is highly desirable to make use of all available information as to the nature of these diseases among soldiers in the armies of our allies, and as to their treatment at the front, at the bases, and at the centers established in home territory for their "reconstruction."

England has had three years' experience in dealing with the medical problems of the war. During that time, opinion has matured as to the nature, causes and treatment of the psychoses and neuroses which prevail so extensively among troops. A sufficient number of different methods of military management have been tried to make it possible to judge of their relative merits.

Although an excessive incidence of mental diseases has been noted in all recent wars, it is only in the present one that functional nervous diseases have constituted a major medico-military problem. As every nation and race engaged is suffering severely from these disorders, it is apparent that new conditions of warfare are chiefly responsible for their prevalence. None of these new conditions is more terrible than the sustained shell fire with high explosives which has characterized most of the fighting. It is not surprising, therefore that the term "shell-shock" should have come into general use to designate this group of disorders. The vivid, terse name quickly became popular, and now it is applied to practically any nervous symptoms in soldiers exposed to shell fire that cannot be explained by some obvious physical injury. It is used so very loosely that it is applied not only to all functional nervous diseases, but to well-known forms of mental disease, even general paresis. If all neuroses among soldiers were included in these groups the use of the term "shell-shock" might be defended. But many hundreds of soldiers who have not been exposed to battle conditions at all develop symptoms almost identical with those in men whose nervous disorders are attributed to shell fire. The non-expeditionary forces supply a considerable proportion of these cases.

The medical statistics of the war are as yet untabulated. Even if the records contained the information desired it would be very difficult to state the prevalence of the neuroses on account of the defective nomenclature employed. It is doubtful if there is another group of diseases in which more confusion of terms exists. Nervous or mental symptoms coming to attention after the soldier has been exposed to severe shell fire are almost certain to be diagnosed as "shell-shock," and yet when such patients are received in England, well-defined cases of general paresis, epilepsy, or dementia præcox are often found among them. This source of confusion tends to swell the number of cases reported under the term "shell-shock," but there are many other sources of error which tend to diminish the apparent prevalence of the war neuroses. It is the belief of those who have made an effort to ascertain the prevalance of the war neuroses that the rate among the expeditionary forces is not less than ten per thousand annually, and among the home forces not less than three per thousand.

The experience of the British "shell-shock" hospitals emphasizes the fact that the treatment of war neuroses is essentially a problem in psychological medicine. While patients with severe symptoms of long duration recover in the hands of physicians who see but dimly the mechanism of their disease, and are unaware of the means by which recovery actually takes place, no credit belongs to the physician in such cases and but little to the type of environment provided. In the great majority of instances the completeness, promptness and durability of recovery depend upon the insight shown by the medical officers under whose charge the soldiers come, and their resourcefulness and skill in applying treatment.

The resources at the disposal of the physician in treating the war neuroses are varied. The patient must be reëducated in will, thought, feeling, and function. Persuasion, a powerful resource, may be employed, directly backed by knowledge on the part of the patient as well as the physician of the mechanism of the particular disorder present. Indirectly, it must pervade the atmosphere of the special ward or hospital for "shell-shock." Hypnotism is valuable as an adjunct to persuasion and as a means of convincing the patient that no organic disease or injury is responsible for his loss of function. Thus, in mutism, the patient speaks under hypnosis or through hypnotic suggestion, and thereafter must admit the integrity of his organs of speech. The striking effects of hypnotism in the removal of symptoms are somewhat offset by the fact that the most suggestible who yield to it most readily are particularly likely to be the constitutionally neurotic. A mental mechanism similar to that which produced the disorder is being used in such cases to bring about a cure.

The experience in English hospitals has demonstrated the great danger of aimless lounging, too many entertainments and relaxing recreations, such as frequent motor rides, etc. It must be remembered that shell-shock cases suffer from a disorder of will as well as function, and it is impossible to effect a cure if attention is directed to one at the expense of the other. As Dr. H. Crichton Miller has put it, "Shell-shock produces a condition which is essentially childish and infantile in its nature. Rest in bed and simple encouragement is not enough to educate a child. Progressive daily achievement is the only way whereby manhood and self-respect can be regained."

It is evident that the outcome in the war neuroses is good from a medical point of view and poor from a military point of view. It is the opinion of all those consulted that, with the end of the war, most cases, even the most severe, will speedily recover, those who do not being the constitutionally neurotic and patients who have been so badly managed that very unfavorable habit-reactions have developed. This cheering fact, however, brings little consolation to those who are chiefly concerned with the wastage of fighting men. The lesson to be learned from the British results seems clear—that treatment by medical officers with special training in psychiatry should be made available just as near the front as military exigency will permit, and that patients who cannot be reached at this point should be treated in special hospitals in France, until it is apparent that they cannot be returned to the firing-lines. As soon as this fact is established, military needs and humanitarian ends coincide. Patients should then be sent home as soon as possible. The military commander may have the satisfaction of knowing that food need not be brought across to feed a soldier who can render no useful military service, and the medical officer may feel that his patient will have what he most needs for his recovery—home and safety and an environment in which he can readjust.

Although it might be considered more appropriately under the heading of prevention than under that of treatment, the most important recommendation to be made is that of rigidly excluding insane, feeble-minded, psychopathic and neuropathic individuals from the forces which are to be sent to France and exposed to the terrific stress of modern war. Not only the medical officers but the line officers interviewed in England emphasized, over and over again, the importance of not accepting mentally unstable recruits for military service at the front. If the period of training at the concentration camps is used for observation and examination, it is within our power to reduce very materially the difficult problem of caring for mental and nervous cases in France, increase the military efficiency of the expeditionary forces, and save the country millions of dollars in pensions. Sir William Osler, who has had a large experience in the selection of recruits for the British Army and has seen the disastrous results of carelessness in this respect, feels so strongly on the subject that he has recently made his views known in a letter to the *Journal of the American Medical Asso-*

ciation, in which he mentions neuropathic make-up as one of the three great causes for the invariable rejection of recruits. In personal conversation he gave numerous illustrations of the burden which the acceptance of neurotic recruits had unnecessarily thrown upon an army struggling to surmount the difficult medical problems inseparable from the war.

Neuroses are very common among soldiers who have never been exposed to shell fire, and will undoubtedly be seen frequently among non-expeditionary troops in this country. In England nearly thirty per cent of all men from the home forces admitted to one general hospital were suffering from various neuroses. Most of these men were of very neurotic make-up. Many had had previous nervous breakdowns. Fear, even in the comparatively harmless camp exercises, was a common cause of neurotic symptoms. Heart symptoms were exceedingly common. The same experience in our own training camps can be confidently predicted.

Bailey, Pearce. War and Mental Diseases.* Amer. j. pub. health 8:1–7, Jan. 1918

The address outlines the methods used by the medical department of the United States army in meeting the problem of mental and nervous troubles arising in connection with military service.

A rather elaborately organized psychiatric service has been established to eliminate the unfit and to care for mental and nervous cases. The large number of insane, epileptics, defectives, etc., recorded in the medical history of former wars, the enormously larger porportion in the present war, and the early lack of facilities to meet the problems created by these conditions led to the establishment of such a service by the Surgeon General of the United States army. After the declaration of war by this country, specialists in these lines were called for to take commissions in the medical reserve corps, and a large number of volunteers presented themselves for the work. The number of medical reserve officers holding such commissions was at the time of the delivery of the address more than 200. Some were stationed at the various camps, some went abroad to study in special hospitals, and others remained in the United States to do work in special clinics.

The types of mental and nervous cases found in connection with military service are, in the order of their frequency, mental defectives, epileptics, ne'er-do-wells, psychopaths, and syphilitics. Mental examinations are now being used at the recruit depots and in the training camps in the endeavor to eliminate as many as possible of the above types of mental and moral defect and psychopathic inferiority. "The volunteers coming to the recruit depots have a large percentage—3% to 5%—of unfit. The national guard and national army have been mobilized for too brief a period to make it possible to say what their percentage will be. We have watched with the greatest care the officers' training camp. . . . In that fine body of men . . . the finest lot of young men in the world, from 1½% to 2% are nervously unfit for war."

All the above methods have been applied by the Surgeon General in eliminating the mentally and nervously unfit for service. For the care and treatment of cases of "shell shock" special hospitals have been built, special offices have been created, and a special personnel of enlisted men has been collected. Nurses specially qualified to care for nervous patients are being sent abroad and will serve on the staffs of the regular base hospitals, the small hospitals and the rest homes for suffering soldiers.

Colonel Bailey concluded his address with a discussion of the many lessons that the civil community will learn from the war, especially along the lines of neurology and psychiatry.

* Report of an address delivered at the General Session of the American Public Health Association, Washington, D. C., October 19, 1917.

Journal Amer. med. assoc. 70: 714, March 9, 1918. Mechanism of Shock (Paris Letter, Feb. 7, 1918)

At one of the recent meetings of the Academy of Sciences, Dr. Marage discussed the grave phenomena observed among soldiers as the result of the explosion of large shells. He said that while there was no apparent lesion, the wounded presented the following symptoms, all of which might be present in any one patient: loss of memory, of equilibrium, of vision, of hearing and of speech. These symptoms disappear gradually in from six to eight weeks, or they may persist for years, and unless treated, they may become permanent. Marage explains these symptoms as being due to the effects produced by the high explosives employed in this war. It is known that the velocity of the sound wave is 333 meters per second under the atmospheric pressure; but in the neighborhood of an exploding shell the speed of the shock wave may be as great as 2,000 meters per second, a velocity happily attenuated very quickly, for even at 60 meters the velocity becomes merely that of sound. But in that danger zone of 60 meters, the pressure is increased as high, even, as 200 kilograms to the square centimeter, but this pressure lasts only 1 or 2 hundredths of a second. Furthermore, in the danger zone the increase of pressure is not uniform, and in the zone of action there may be dead sectors. The intensity of these zones of action is unequal, being stronger toward the sides than toward the front and rear. This explains why soldiers in the same zone present extremely variable central lesions. Under the influence of this enormous increase in pressure, the blood is forcibly driven toward the center, hence toward the brain. This sudden tidal wave of blood would be always fatal if the capillaries by their resistance did not check it somewhat. Marage concludes from this that it is not by any means always the middle ear which is the cause of war deafness, but that the whole body surface is responsible. The ear protectors are very useful in certain cases, but unfortunately they do not protect against this kind of deafness.

Gordon, Alfred. The Problem of "Neurotics" in Military Service. Med. rec. 93: 234–37, Feb. 9, 1918

A. Gordon in a practical article emphasizes the very great importance of the early recognition of this type of man, and points out the grave dangers of his continuance in war service. He draws accurately the picture of this class of cases which are most liable to become unbalanced under severe mental or physical strain, and the grave consequences of such breakdown to the man and the service. The author suggests that a closer inspection of the family and personal history would probably lead to the discovery before enlistment of large numbers of these cases, and that if such cases were eliminated before they reached the training camps, much expense to the Government would be saved and greater efficiency result. The author's suggestions seem to be of great importance.—E. H. R., Bost. med. and surg. j. 178: x, May 9, 1918.

Journal Amer. med. assoc. 70: 866, March 23, 1918. War Tremors (Paris Letter, Feb. 21, 1918)

At one of the recent meetings of the Société de neurologie, Drs. Henry Meige and Mme. Bénisty presented a number of patients afflicted with tremors, and emphasized particularly the clinical characters which permit of a differentiation between tremors of organic origin and those of a neuropathic or emotional origin. Among the organic, they insisted on the morphologic and physiologic objective characters of the parkinsonian type, of which they presented a characteristic example consecutive to traumatism. They also showed cases of nervous tremors the result of wounds or of concussion, and also cases of tremors antedating the

war, occurring among emotional subjects. They distinguish, besides true tremor, clonic movements which are sometimes confounded with the latter, and which are the result of certain lesions of the peduncular protuberance. In the clinical diagnosis it is essential to examine with care the seat and the form of the tremor. When it is confined to the fingers and is fine and rhythmic, it is nearly always of organic origin. One frequently sees a nervous tremor involving only the flexors and extensors of the wrist, or the pronators and supinators without any involvement of the fingers. When studying a tremor it is essential to determine by manual palpation the sensations experienced while mobilizing parts of the limb. The waxy flexibility, *flexibilité cirreuse*, of Parkinson's disease, is clearly distinct from the cog wheel resistance, *résistance à crans*, perceptible in the majority of nervous tremors, and evidenced by a succession of contractions and relaxations, more or less brusque, occurring at regular intervals.

The evolution of a tremor is also of diagnostic value. It may be (1) progressive, localized at first in one member or in part of a member, but progressively involves one or more of the other members. Parkinson's disease belongs in this class. Or the tremor may be (2) retrogressive, generalized at first but tending gradually to become localized in one member or part of a member. This evolution is characteristic of tremors of neuropathic origin. There is further (3) the migratory tremor, whose localization varies, as do likewise its extent and time of appearance. The migration of the tremor may occur spontaneously. It can be rendered more apparent by changing the position of the member, or if one or more parts or segments are immobilized.

Meige and Bénisty also called attention to the necessity of morphologic examination, which enables one to appreciate the state of permanent hypertonicity of certain persons with tremor, a phenomenon to whose existence in Parkinson's disease Paul Richet and Meige have previously called attention, and which may also be seen in paratonic subjects. It is evidently a manifestation of *déséquilibration motrice congénitale*. Dr. Tinel, chef de clinique à la Salpêtrière, stated that he had observed several cases of neuropathic tremor of a member since this condition had been cured by intense faradic reeducation. He has also noted the migration of certain tremors. The neuropathic tremors are at the same time real, involuntary, persisting during sleep and even under the influence of chloral, but, nevertheless, perfectly influenced by reeducation. There exists in these cases a state of neuromuscular hyperexcitability associated with a persistent emotional state.

Amer. med. 24: 306–07, May 1918. The Treatment of War Neuroses (London Letter, March 26, 1918)

Two different conditions, which may be described as neurasthenic and hysteroid, either of which conditions sometimes receives the name of "shell-shock," are at the present moment the subject of the anxious attention of physicians and psychologists at the front, in the base hospitals, and in the various home institutions, general or special, for the treatment of chronic cases. On the etiology of many of these cases, and therefore of their treatment, much difference of opinion has been expressed, as is shown by the fact that quite recently one famous London neurologist said that in his experience many patients suffering from so-called "shell-shock" were "shell-shy", while another gave it as his experience that deliberate malingering was very rare. The view of the writer of pensions, Mr. J. Hodge, has been publicly expressed that the admixture of shell-shock cases with "cheery chaps" in general hospitals would give good results, and Professor Elliot Smith of Manchester has demolished it with delightful scorn. Such differences of opinion indicate that different advisers find different courses advisable for the patients, for, while it is obviously wrong to congregate malingerers in any large institution where their form of weakness may spread to other patients, it is

equally obvious that for subjects requiring real neurologic care, persons qualified to give them that attention should be in attendance. Those British authorities who agree so far as to acquiesce in the necessity of having neurologic centers, differ on one point, as to the locality of those centers, some seeing no harm in keeping the patients in towns, and others desiring to send them into the quietest possible country districts. It is clear that it is easier to obtain a first-class scientific staff for an institution in a large urban center than it ever could be for homes scattered up and down the countryside, a practical reason which has to a great extent dictated the geography of the various institutions.

The question of receiving shell-shock patients into London institutions has been complicated by the fact that London is subjected to aerial bombardment, the effect of which upon the shell-shocked patient may well be regarded with apprehension. It is undoubted that in some of the hospitals in the London area the raids have an ill effect upon those patients, although the amount of damage done to them seems to have been considerably exaggerated, while the stories of panic spreading from patient to patient lack all authority and are backed by no evidence. On the other hand, categorical statements have been made by certain medical officers that no ill effect of any marked sort can be observed among the shell-shocked patients on the nights of German air raids, and that, where individual patients have shown signs of breakdown, it has been easy to restore their equanimity, and noticeably that on later occasions in similar cricumstances that equanimity was preserved. The arrangements for the treatment of discharged soldiers and sailors are now made by the Ministry of Pensions and the matter of reception and treatment of cases of war neurosis forms a subject to which that department is now giving considerable attention. But the medical profession does not feel wholly satisfied with the arrangement made by the ministry to keep in touch with first-class scientific opinion, and the view has been expressed in no uncertain terms that the ministry ought to provide itself with an advisory committee of general physicians and surgeons, experts in various special directions, so that errors which have certainly been committed in the treatment of soldiers and sailors discharged under the heading of neurosis should for the future be avoided.

Bailey, Pearce. Malingering in U. S. Troops, Home Forces, 1917; Bulletin compiled from Reports of Medical Officers. Mil. surg. 42: 261–75, 427–49, March and April 1918

Malingerers in a military environment may be divided into two groups: (1) those that feign symptoms with full knowledge, interest and responsibility, and (2) the constitutionally inferior individuals who are never able to face disagreeable situations without complaint and deceit. With the progress of medicine the number of cases of group 1 has decreased whereas group 2 has increased considerably. "One surgeon expresses himself as convinced 'that in almost all of the cases in which defects were simulated or exaggerated, the patients were actually defective either in a lesser degree or in a different affection or in both. Whether the malingering took the form of mental or nervous or physical defects it was based, in almost every instance, on an actual unstable or defective mental state.'"

Malingering is more frequent at the National Army camps than at the National Guard divisions, but even here it has never exceeded 1% of the whole command. The motives that lead men to feign disability are varied. By far the most common purpose is to evade service, and therefore the presence of malingering among drafted men has been more marked than among those that have enlisted. There are some men who apply honestly for enlistment, but who later feign symptoms in order to be dismissed; others apply with the deliberate purpose of being rejected for physical unfitness so that they may avoid being drafted into the service. Every minor ailment is often exaggerated because the men wish to avoid un-

pleasant duties. On the other hand boys of fifteen, sixteen, or seventeen often pass as eighteen or over in order to enter the service. Sometimes men will conceal disabilities and diseases in order to join the army. This is especially true of alcoholics and epileptics. Often soldiers accused of delinquency will claim a medical examination to obtain exemption from punishment. Less frequently men will try to obtain transfers to different divisions, such as the Quartermaster's Corps or the Medical Corps where they believe the work to be easier and less perilous.

Suggestion is an important factor in malingering. This may come from remote sources such as the idea of being weak or delicate before entering the army and the probable breakdown resulting from the strain of army life, or the symptoms may be transferred suggestively from one man to another in the same company. To understand cases of this kind, the medical officer must establish relations with the recruits whereby the real nature of the malingering is disclosed.

There are very few malingerers of the criminal type. Most malingering is done in a crude way and so is easily detected. For the detection and cure of malingering the examining officer must both recognize the self-induced factitious conditions and estimate the degree of exaggeration in complaints of actual or preexisting diseases, conditions or injuries. A brief stay in the hospital is usually sufficient to disclose the self-induced symptoms. When there is a suspicion that existing ailments are exaggerated, the medical officers must decide whether or not the alleged suffering, compared with conditions actually found, is beyond medical experience. After this point is determined, the motives which led to the exaggeration must be discovered. This can be done best by studying the soldier's personality, his home and school life, his business career, and his own ideas concerning his health.

The various disabilities that are feigned may be listed under (1) disturbances of vision, (2) disturbances of hearing, (3) general medical, (4) general surgical, (5) nervous and mental conditions, (6) factitious conditions including wounds, and (7) bed-wetting. Many tests for the detection of physical disabilities are described in detail. However, in spite of the fact that most malingerers are psychoneurotics, few of them ever feign mental or nervous diseases. Insanity, however, is easily recognized as feigned by the failure to produce any clinical type or by absurd statements and actions. Mental defect is feigned frequently, for the most part by illiterates and foreigners, who, because of their ignorance of the language, feel that they can display an unnecessary amount of stupidity. Knowledge of the home environment, and, in the case of foreigners, an interpreter are necessary for their detection. The discovery of simulation and management of cases that complain of pain and hyperesthesia is as follows: "Failure to correspond in distribution with true clinical types. History often quite inconsistent with type of pain complained of. Absence of the ordinary traces of prolonged pain, and of the other symptoms which usually accompany type of pain complained of. When referred to limited areas, absence of the sharply localized painful points characteristic of neuralgias. Behavior of patient (when he thinks himself unobserved) to be carefully noted." Tremors are frequent in the early days of training, as a result of unusual exertions. If accompanied by other symptoms the etiology should be determined. Anesthesia is frequently present in neurotic persons. Complaint of this condition however indicates malingering since genuine patients rarely realize its existence. "The most reliable means of detection consists in its failure to reproduce the clinical picture of the various diseases in which it occurs, and the faulty association with other symptoms." Epilepsy is frequently imitated since it is a common cause of discharge from the army, but the fits are usually imitated in a clumsy fashion, or when no physicians are present. However it is doubtful as to whether men that can imitate grand mal epileptic attacks can be made into desirable soldiers or not. It is probable that they are constitutionally neurotic. A verified history of previous attacks is

always necessary. In attacks of true grand mal, the pupil does not react to light for a short time after the attack, the Babinski reflex is present and the knee jerks are lost. In malingering the initial cyanosis of the epileptic is wanting and the tongue is seldom bitten. Frothing at the mouth is reproduced by filling it beforehand with soap suds. Hysteria is rarely chosen by malingerers although it is difficult to detect as feigned. "The symptoms of hysteria never reproduce those of organic disease but they come closer to it than is possible to any conscious simulator, and whenever there is a reasonable doubt as to whether a man is really pretending or not, the chances are that a hysterical element is strongly represented in the case." This question comes up most frequently in cases of paralysis and of contractures of the muscles of the back. The use of the Faradic current usually proves or disproves the presence of organic paralysis, either peripheral or central by determining the type of symptoms and the way in which they are associated. Cases in which the back is held stiffly forward or laterally may require an X-ray examination for determining the absence or presence of disease of the vertebrae. These contractures however are usually associated with the belief on the patient's part that he has an actual disease of the spine or kidneys and clear up rapidly under the usual methods of treating hystero-malingerers.

Pretended alcoholism or drug addiction is sometimes made a basis for exemption from service. These cases are detected when, deprived of the drugs, they show no deprivation phenomena.

Various other conditions are artificially created or simulated, such as amputations, self-inflicted wounds, teeth extractions, inflammations of the skin by the use of irritating chemicals, retention of urine, etc. Bed-wetting is of frequent occurrence since it is easy to assume, difficult to detect when simulated, and often leads to discharge.

Major Bailey closes his report with a brief discussion of the conscientious objector.

Med. rec. 93: 781, May 4, 1918. Convalescent Homes for Neurasthenic Cases (London Letter, April 4, 1918)

The Minister of Pensions, Mr. John Hodge, is finding himself in considerable opposition to the best medical opinions in the attitude which he has taken up with regard to the homes of recovery which are being instituted for neurasthenic and shell shock cases. Mr. Hodge has official medical opinion to rely upon, but either this opinion is not as well informed as it should be or he is preferring to listen to the popular view. The popular view is that the neurasthenic patient requires cheering up by intermixture with other patients, and also that as his condition can often be attributed to what is vaguely labeled "shell shock", it is particularly important that the institution into which he is received should be outside the area of possible or probable air raids. Of course, no patients ought to be placed within a danger zone if it is possible to accommodate them outside. But there has obviously been great exaggeration of the ill effects displayed by the shell-shocked patients after subjection to an air raid. So far from being more agitated than any other members of the population, when judiciously handled they bear the ordeal with perfect calm. A limited number of neurasthenic cases may improve when mixed up with a general hospital population. Some also may only require ordinary treatment in a convalescent home, or can be boarded out as country visitors, or may be added to the population of village centers, but as a rule those suffering from functional nervous disorders require special treatment which can only be given in special institutions. The scattering of neurasthenic patients in various directions on the chance that a proportion of them may get better is a policy directly opposed to that intensive treatment of disease which has proved in every department of surgery and medicine to be

the really efficient way of dealing with the pathological results of the war. The War Office has taken a better line than Mr. Hodge, in the opinion of real neurologists, when the military authorities issued a recommendation that all soldiers suffering from a functional nervous disorder should be segregated for treatment into special hospitals immediately on their home arrival, and that such hospitals should be staffed by medical officers interested in and specially trained for, the work. There is a strong feeling in medical circles that the Ministry of Pensions should be provided with some sort of advisory medical council so that the minister might be kept in better touch with scientific medicine. Undoubtedly it is a popular belief that it does the neurasthenic patient good to be cheered up by the merry convalescents from minor surgical injuries, but official support of this belief may produce feelings of considerable anxiety among the relatives of neurasthenic patients who are receiving the proper treatment on intelligent segregation and individual scientific attention.

Journal Amer. med. assoc. 70: 1554, May 25, 1918. Special Commission for Surveillance of Outcome of Nervous and Mental Disease in Soldiers (Paris Letter, April 18, 1918)

Conforming to the plan adopted December, 1917, at the reunion of the chiefs of the centers of neurology and psychiatry and by the Société de neurologie, the undersecretary of state for the Service de Santé Militaire has decided on the creation of a special commission for supervision of the results of treatment of nervous and mental disease in soldiers. This commission is charged with the technical control of the neurology and psychiatry centers, and also the solution of medicolegal questions in debatable and rebellious neurologic or psychiatric cases (convalescence, temporary or permanent invaliding, military sanctions, etc.). The committee is called to functionate principally for cases treated in the special centers for functional reeducation and exceptionally for other cases which will be submitted by the undersecretary of state for the Service de Santé Militaire. As a rule, the commission will examine on the spot the cases referred, to them. The commission is composed of Drs. Achille Souques, médecin des hôpitaux de Paris, Ernest Dupré, professor agrégé à la Faculté de médecine de Paris, et médecin des hôpitaux, Henri Claude, professor agrégé à la Faculté de médecine de Paris et médecin des hôpitaux, and Dr. Froment.

Journal Amer. med. assoc. 70: 1554, May 25, 1918. The Treatment of Shell Shock (London Letter, April 30, 1918)

The large number of men discharged from the army because of shell shock presents a new problem. They have been treated in a long series of military hospitals, where every effort has failed, and finally they have been sent out into the world physically sound but mentally broken down, incapable of work and unfit even to go home to their families. Like many other new problems presented by the war, experience and energy have solved this one. Special hospitals have been established for the treatment of such men with excellent results. The patient is first put to bed in a room alone and the physician brings mental influence to bear on him, for drugs are of little use. He is encouraged to regain his lost will power. The next step is to put him in a room with suitable companions and rouse his interest in things outside himself. At first he is very unsociable because he has lost self confidence; but sooner or later he begins to mix with his fellows and then plays billiards, cards, or other games. In the gymnasium, systematic exercises are then performed under an instructor. Various forms of work, of which carpentry and bootmaking are the most popular, are next undertaken. At first the patients work only an hour in the day, then two, and so on until six hours are attained. Other trades taught are engineering,

electric light work, motor construction, and intensive gardening. Two thirds of the patients return to their former work, and one fourth are made useful workers in some other line. Thus complete recovery takes place in eleven out of twelve cases.

Sexton, F. H. Vocational Rehabilitation in Canada of Soldiers Suffering from Nervous Diseases. Mental hygiene 2: 265–76, April 1918

Although it was expected that many men in the armies would not be able to endure the mental strain of war, hardly any one was prepared to find that so large a proportion of discharges would be due to nervous troubles. "In England nearly 20% of the 175,000 pensioners are suffering from functional nervous disease and the greater part of these have not been actually wounded. In Canada over 10% of all the 25,000 men who had returned up to October 1, 1917, were classified as mental cases. This category included insanity, shell shock, neurasthenia, etc. If those who were returned as over-age, under-age, and for duty are excluded, the mental cases represent 15% of the invalids, and if those suffering from actual wounds are not counted, the mental cases constitute 25% of all those returned from the Canadian army in England and France. From a purely military point of view this factor of war neurosis is highly important where so many men have to be discarded for mental causes. From an economic standpoint, the treatment of so large a percentage of invalids in order to reinstate them in productive work is a serious matter."

During the early part of the war mental and nervous cases were removed from the front lines and even sent to England for treatment, but when German submarines began to sink hospital ships, neurological centers had to be established in France. These are usually situated in the immediate rear out of range of all but the largest guns. "A special shell shock hospital is run in conjunction with a clearing hospital in each area. Each individual soldier is looked upon as a separate case. . . . The doctors, nurses and staff are all carefully selected for their special abilities and personalities. The atmosphere of the institution is a deliberately planned mixture of firmness and kindness. It has a military tang, but is not so impersonal and severe as the army. All the staff are expected to radiate optimism and cheerfulness. The patients are kept as far as possible from introspection. . . . Quick recoveries are the rule and a high percentage of the men return to the trenches inside of a month or even a fortnight. An expert French medical officer in charge of one of these centers reports that 91% of the cases received in a four-month period were sufficiently recovered to send back into the fighting line. . . .

"If the patients do not show signs of quick recovery they are sent to the base or to England. If they are Canadians and will not be fit again for six months they are sent home for further treatment before discharge. . . . If the men are suffering from a form of mental disease that treatment will not benefit, they are sent to the hospital for the insane in the province to which they belong. The government pays for their maintenance and if the man is married, his wife gets the same pension for herself and her children as if her husband were dead. If the case is severe and needs more careful diagnosis and treatment, the man is sent to the Central Hospital for Nervous Diseases at Cobourg, Ontario. . . . From here, patients may be discharged to hospitals for the insane, to regular convalescent homes, or to civil life."

Sexton quotes statistics as to types of war neuroses from Cobourg reports. "Hydrotherapy and electrotherapy are used with most gratifying results, but some form of vocational training is depended upon to build up the will and initiative of the patient. . . . He is first told that his nervous disability does not at all unfit him for success in some civilian occupation, but that it is severe

enough to debar him from any further military service. This sets his mind at rest about being returned to the army, and directs his attention to the future." He is then given some light occupational work upon which he spends at first only an hour or two a day, but the time is gradually increased until he is working all day. Then he is promoted to classes requiring more skill and effort, and so on. Judicious praise is employed, but no "mollycoddling" is allowed. If the patient is much interested in his work, very little attention is paid by the doctors to his ailments, so that his mind may be kept entirely concerned with things other than his own condition. . . . "When the patient is fit to return to civil life, he goes back to his own job, or enters a course in another institution, or else is apprenticed in industry to gain the knowledge and skill necessary for his success in some regular occupation.

"The institutions most necessary for treatment of these men are convalescent homes, not hospitals. . . . The homes are usually situated near large cities so that expert medical services may be secured, and each has a capacity of from 300 to 1,000 patients. In order to make proper use of the time of the soldier during the day, vocational training was introduced into every home, and now the vocational building is an integral part of every new building plan." At first admission to classes was voluntary, but the treatment so quickly proved its value that after a brief time vocational work was made compulsory for all men not excused as unfit by the medical officer. Instruction is given in English, French, arithmetic, stenography, bookkeeping, typewriting, telegraphy, woodworking, shoe repairing, mechanical and architectural drawing, care and operation of automobiles, machine-tool operating, electrical wiring, gardening, poultry-farming, etc. The daily program requires from four to four and a half hours of attendance. Each man is allowed to make his choice of classes.

To nervous cases the making of novelties and hand-wrought jewelry has proved especially interesting. The articles made may be kept by the patient if he pays for the raw materials, or they may be sold at reasonable prices as war souvenirs. In this way many a patient has made enough to serve as a nest egg with which to start life again when discharged. Very few nervous patients can be interested in work requiring mental effort; they like best creative work with the hands. Light woodworking and machine-tool operation have proved popular with shell shock cases. A machine shop is too noisy for most nervous patients, but some have achieved great proficiency as machinists in spite of this drawback. Farming is beneficial to those who lived in the country before the war, but former city-dwellers seem to find the isolation and quiet routine of farm life an aggravation rather than a help. But no rules for choice of occupation can be formulated. It is necessary to find the line of work in which the particular case is most interested and then to furnish instruction in it. Mild cases should be directed toward recognized wage-earning work as they will thus the more readily regain initiative and self-confidence. Many cases have left the convalescent homes fitted to take up work in which they have been more deeply interested and in which they have received greater remuneration than in their pre-war occupations.

"The vocational training in the convalescent homes is only incidental and supplementary to the medical treatment. When a man becomes an arrested case he is discharged whether he has finished a course or not. If he is then unable to follow his old trade successfully he is a subject for vocational re-education. He is brought before a Disabled Soldiers Training Board, composed of a special medical officer, a vocational officer, and a layman who may be an employer, a labor organizer, a business man, a professional man, etc., representing the public. The man's desires and former occupation, together with his disability are carefully considered, and he is advised in regard to the vocations he may enter with probability of success. He, however, makes the choice himself so that he has the greatest stake in his future training. The effort is made to keep him as close

as possible to his former work so that his industrial experience and skill may not be altogether scrapped. It is very evident that, if possible, he should be moved up to a position of greater skill and responsibility where he must use his intelligence more and his physical strength less. This is often possible, but is not usually the case. The attempt is then made to place him in some occupation in the same industry, but parallel with his former work where his disability is not a serious handicap. If the central authorities at Ottawa concur in the recommendation of the Disabled Soldiers Training Board, the man passes out of the Army and becomes a civilian under the control of the Vocational Branch of the Military Hospitals Commission. He receives special pay and allowances running from a mimimum of $46.00 a month, if he is a single man with no dependents, to a maximum of $93.00 a month in the case of a married man with five or more children under sixteen years of age. This allows him and his dependents to live respectably while he is getting his training. He may be sent to a technical school, a college of pharmacy, an agricultural college, a business college, a navigation school, or other special institution or he may be regularly apprenticed in an industry. The courses usually last six to twelve months and are entirely free of cost to the man. He is given an extra month's pay at the end of the course, a position is found for him, and no deduction is made from his pension because of any proficiency or wage-earning power he has acquired at the expense of the government.

"Thus Canada is trying to place the disabled men on their feet again in civilian life. The attempt is being made to eliminate the most pitiful by-product of war, the 'old soldier'. Having before her the experience of the United States after the Civil War, Canada is determined to have no crop of 'carpet-baggers', pension mongers, and government alms-takers with the consequent commonplace filching of national funds and degeneration of civic honesty. The gospel of the busy life for everybody is being preached and practiced among the returned invalid soldiers. Salvation through honest work applies to the hero home from France as much as to the mental defective or social delinquent. The satisfactory results already achieved in Canada stamp the vocational training and re-education as the most hopeful activities in rehabilitating the men who have placed their bodies and brains as a barrier against the horrible flood of German ideas that threatened to overflow the world, and who have given freely of themselves in this glorious service. The goal is to make the soldier's disability his opportunity and to prove that his sacrifice will furnish him a staff with which to support himself instead of a millstone to drag him down."

N. Y. med. j. 107: 850–51, May 4, 1918. The Mentally Defective Soldier (Editorial)

For the first time in the history of warfare mental hygiene, as practised among soldiers, has been given the prominence it deserves, and, profiting by the experience of England and France in the present war, the Surgeon General was impelled to inaugurate an elaborate organization, both in numbers and in plan, to take care of any mental disturbances detected in the camps or among soldiers during the war. This is a distinct innovation in medical army work, for the subjects of mental hygiene and of mental and nervous disease in general as occurring among soldiers in war time were for many reasons either slightly treated, or neglected altogether.

The outlook for those affected mentally during the war is rather brighter than among those in civil life, and Lieutenant Colonel Pearce Bailey (American Journal of Public Health, January, 1918) finds the rate of recovery varying up to seventy per cent, (Doctor White's statistics of the Spanish war), as contrasted with the twenty per cent or twenty-five per cent as found among the civilians. During peace the discharge rate from the army of those affected with

various psychoses is three men in a thousand, as compared with six or even ten in a thousand during the war, especially in expeditionary wars, that is, wars in foreign countries, when the ratio rises as high as fifty per thousand, as happened in the German expeditionary forces in the Boxer campaign. Here evidently homesickness is an important contributory factor. Insanity is the most frequent cause for discharge in the army, even more so than tuberculosis, contrary to the accepted belief.

The mental hygiene work is conducted by a staff of qualified men, who responded eagerly to Surgeon General Gorgas's appeal for specialists issued in April and May of last year. Among the cases they handle are, first of all, the mental defectives, whose conduct in the army may easily be compared to the behavior of backward and feebleminded children in school. Their mentality is passed upon by new and rapid tests specially adapted to the urgency of the situation. The weeding out of these "stupids" is a matter of great importance in the morale of the army during war, for many a case of apparent cowardice, for which the unfortunate forfeits his life, is to be ascribed to feeblemindedness, as the English have found in their experience during this war. Another class is the pampered son and the ne'er-do-well, subjects without stamina or basis of character or mind; the presence of such is of no value in an army, and, once found, they should be gotten rid of. Still another type is the individual who cannot possibly be made to fit within the rigid frame of the collective discipline of an army; divorced from his habitual way of doing things, unable to orient himself among the new surroundings for lack of adaptability, he soon collapses under the strain and excitement of war horrors, and thus becomes a burden on the army. It is especially important to keep in mind that all such may pass a perfect physical examination, as presumably very desirable soldiers, and this notwithstanding may be properly classified among the above enumerated cases. Even in the officer's training camps, where are gathered some of the finest specimens of young manhood, among candidates the two most important qualifications of the successful soldier, the ability to obey and the quality of initiative and independence whenever the occasion demands, there are between one per cent to two per cent nervously unfit for war.

Amer. med. 24: 265, May 1918. The Reconstruction of Men (Editorial)

The reconstruction of men and the industrial rehabilitation of the nation involves a new phase of work for the medical profession. The real results of medical care are not to be gauged by the physical restoration of the individual, but in terms of his psychologic and industrial restoration. A new type of medical work will be developed combining medical experience, educational ability, a knowledge of the psychology of work and workers, an understanding of the nature and strains of various industries, together with a high degree of educational resourcefulness. The occupational therapeutist will become a prominent factor in the future development of the program for rehabilitating those disabled by war. Unfortunately, inadequate attention has been given to the relation of this problem to those crippled in the struggle for existence, those who have suffered from the all too numerous accidents which have characterized our industrial development.

The place of occupational therapy in the treatment of neurasthenia and psychoses has been recognized and considerable progress has been made in this direction. The problems of occupation involved as a result of blindness, deafness, epilepsy, tuberculosis and similar handicapping defects and diseases have received constructive consideration and moderate attempts have been made to secure the adjustments after due training required by such physical incapacities. A broader view must now be taken, and the occupational therapeutist is already

in demand with a supply so limited as to require the immediate institution of training courses to remedy the lack.

The economic returns of rehabilitation are the ones which are usually urged and stressed by those interested in the organization under federal auspices of a reeducational program. From the public health standpoint, equally valuable results are to be attained as a result of the strengthening of national vitality. Gross handicaps, unfitting for employment, are responsible for the reduction of power and vitality. Industrial incapacity, with decreased economic rewards, results in lower standards of living, with consequent limitation of physical, mental and moral welfare. The health-giving environment depends upon an adequate living wage. Rehabilitation is a health problem of no mean proportions, and should engage the serious attention of the medical profession, not merely in connection with war injuries, but with those arising in every phase of civil and industrial life.

Pilgrim, Charles W. The State Hospitals and the War. N. Y. State hosp. quar. 3: 223–24, May 1918

The statistics of the hospitals for the insane in New York State for the forty-four months before the war showed 29,316 admissions; while in the forty-four months that have elapsed since the declaration of war there have been 33,311 admissions. This was a marked increase, and, as a majority of the new cases were of the dementia praecox and manic-depressive variety, it was only fair to assume that the stress and excitement of war times was the cause. Another interesting fact is that the admissions showed a marked increase in recurrent cases. It was also noticed that many cases occurred among old people who had delusions of a depressing character, such as that the end of the world was approaching, that everything was going wrong, etc., such as would be caused by the present troublous times. Another reason for the increased admissions might be that many people have gone into new employment where the work has been more strenuous and where they have made a great deal more money and have lived very different lives.

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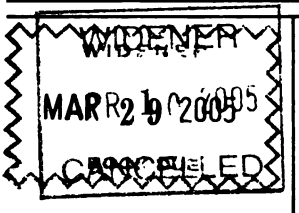
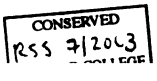
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